SAMSUNG

User Manual

www.samsung.com/register

For video recording, use a memory card that supports faster write speeds.
- Memory Card: A micro SDHC card of Class 6 or above.

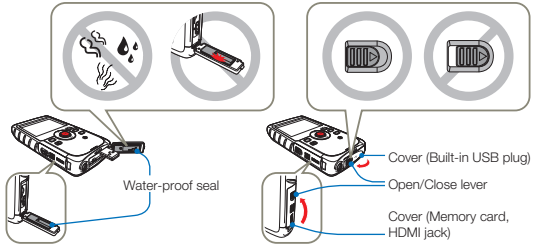
HMX-W200RP
HMX-W200TP

Caring for water/dust/shock-proof capability

- The product is water-proof, dust-proof, and shock-proof.
- The product's dust-proof and water-proof performance complies with IP58.
- This product is available for general underwater recording in the sea, a river, or a lake.
- The water-proof up to a water depth of 3 meters for about 30 minutes is supported. If the water depth or the time exceed, the water-proof function will not be guaranteed.
- The shock-proof up to a height of 2m is supported.
- Samsung is not responsible for any malfunction or damage caused by your mishandling. Carefully read and understand cautions on underwater recording before use.
- To maintain water-proof performance, replace related parts annually. For replacement of such parts, consult your Samsung service centre.

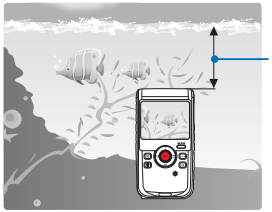
Before using the product under/near water

- Make sure to remove sand, hair, and other foreign substances on the product, and keep the lens glass clean.
- If found with foreign substances or water around the memory card/HDMI jack cover and USB plug cover, wipe to remove it with a soft clean cloth that leaves no fabric dust. Even a very small amount of foreign substances may cause damage or let water enter the product.
- Make sure the water-proof seal in the cover has no damage. It may cause damage or let water enter the product. If damaged, consult your nearest Samsung Service Centre for replacement.
- Do not open or close the memory card/HDMI jack cover and USB plug cover with wet hands or dirt/sand-stained hands and avoid opening covers near water. It may introduce water or other foreign substances into the product.
- Make sure to close and lock the memory card/HDMI jack cover and USB plug cover with a clicking sound.
- Use the underwater mode to ensure the optimal condition for under water recording. ➥page 37



Using the product under/near water

- Do not use the product in water depths exceeding 3m.
- Do not use the product underwater for longer than 30 minutes.
- Do not open the memory card/HDMI jack cover and USB plug cover underwater.
- Do not use the product in hot water, such as a hot spring.
- Do not expose the product to strong vibration, shock or pressure.
  - Do not jump or dive into water holding the product.
  - Do not use the product in strong water flows such as in rapids or under waterfalls. The strong water pressure may impair the water-proof performance or cause a malfunction.
- Do not place the product near sands. Sand can enter the speaker and microphone, and the product may be overheated if exposed direct sunlight for a long time.
- Do not poke the speaker or microphone of the product with any sharp object. Water-proof performance will be degraded.
- If the product is splashed by substances such as sunscreen, sun oil, or soap, wipe off immediately. The substances may impair the water-proof performance or cause discoloration.



Available to record up to a water depth of 3m for about 30 minutes

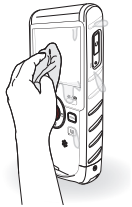
Cleaning after using the product under/near water

After using the product in water, rinse to remove foreign substances or salt from the product within 1 hour.

1 Gently shake the product to rinse after sinking it in clean water for 2~3 minutes.

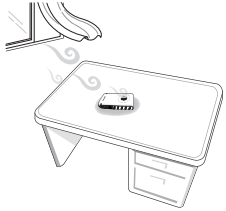
- Hold the product with the cleaned part facing down, and then gently shake the product.
- Bubbles may appear when the product is soaked in water. This is not a malfunction.
- When the product is not rinsed completely, the waterproof performance may deteriorate.
- Press each button of the product to remove salt or other foreign substances between/around the buttons.
- Do not use chemicals to clean the product including soap, neutral detergent or alcohol. It may damage the product's water-proof capability.

2 Wipe off the water droplets from the product with a soft and dry cloth after removing it from water.



3 Dry the product completely in a well ventilated and shaded area.

- This product is designed to be well drained. The water drains through the small holes around the buttons on the product.
- Do not use a device such as a hair dryer to dry the product. The water-proof performance may deteriorate or the appearance of the product can be transformed.



Do not open the memory card/HDMI jack cover and the USB plug cover until the wet product is dried out.

Before reading this user manual

SAFETY WARNINGS

What the icons and signs in this user manual mean;

Safety Icon	Meaning
WARNING	There is a potential risk of death or serious injury.
CAUTION	There is a potential risk of personal injury or damage to the product.
	To reduce the risk of fire, explosion, electric shock, or personal injury when using your product, follow these basic safety precautions.
	Settings required before using a function.
	Here are hints or page number references you will find helpful when you operate the product.

These warning signs are here to prevent injury to you and others. Please follow them explicitly. After reading this section, keep it in a safe place for future reference.

PRECAUTIONS

Warning!

When using the AC power adapter with your product, connect the adapter to an outlet with protective grounding.

To disconnect the apparatus from the mains, the plug must be pulled out from the mains socket, therefore the mains plug shall be readily operable.

IMPORTANT INFORMATION ON USE

About this user manual

Thank you for purchasing this Samsung Product. Please read this user manual carefully before you use the product and keep it handy for future reference. Should your product fail to operate correctly, refer to Troubleshooting. ➥pages 73~81

This User Manual covers HMX-W200RP and HMX-W200TP models.

- Illustrations of model HMX-W200RP are used in this user manual.
- The displays in this user manual may not be exactly the same as those you see on the LCD screen.
- Designs and specifications of the product and other accessories are subject to change without any notice.
- Before use, read 'Safety information' carefully and then use the product properly.
- Samsung is not responsible for any injury or damage caused by not following the user manual.
- In this manual, a 'memory card (card)' means a micro SD or micro SDHC.
- In this user manual, the icon or symbol in the parenthesis appearing in a description of a submenu item will appear and remain on the LCD screen when you set the item.
  Example) Submenu item of "**Video Resolution**" ➥page 47
  - "**1080/25p**" (FULL HD): Records in the FULL HD (1920x1080/25p) format. (If set, the (FULL HD) icon appears and remains on the LCD screen.)

The following terms are used in this manual:

- 'Scene' refers to the point where you press the **OK (REC)** button to start recording until you press again to stop the recording.
- The terms 'photo' and 'still image' are used interchangeably and have the same meaning.

Before using this product

- **This product records video in H.264 (MPEG4/AVC) format.**
- **You can play back and edit the video recorded by the product on a personal computer using the internal software of this product.**
- **Please note that this product is not compatible with other digital video formats.**
- **Before recording important video, make a trial recording.**
  Play back your trial recording to make sure the video and audio have been recorded properly.
- **Recorded contents may be lost due to a mistake when handling the product or memory card, etc.**
  Samsung will not provide compensation for damages due to the loss of recorded contents.
- **Make a backup of important recorded data.**
  Protect your important recorded data by copying the files to a PC. We also recommend you copy them from your PC to other recording media for storage. Refer to the software installation and USB connection guide.
- **Copyrights: Please note that this product is intended for individual use only.**
  Data recorded on the storage media in this product using other digital/analogue media or devices is protected by the Copyright Act and cannot be used without permission of the owner of the copyright, except for personal enjoyment. Even if you record an event such as a show, performance, or exhibition for personal enjoyment, we strongly recommend that you obtain permission beforehand.
- For Open Source licences information, refer to the "Opensource-W200.pdf" in the provided CD-ROM.

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Safety information

The safety precautions illustrated below are to prevent personal injury or material damages. Heed all instructions carefully.

WARNING
There is a potential risk of death or serious injury.

CAUTION
There is a potential risk of personal injury or damage to the product.

Prohibited action.

Do not disassemble the product.

Do not touch the product.

This precaution must be followed.

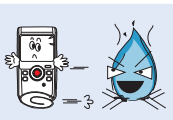
⚠ WARNING

Using the product at temperatures over 60 ℃ (140 ℉) may result in fire. Do not store the product in a high temperature place for a long period of time. Otherwise, battery inside the product may explode when overheated.

Do not allow water, metal, or inflammable material to enter the product. Doing so may pose a fire hazard.

No oil! Oil entering the product can cause electric shock or cause the product to malfunction.

Do not aim the product directly into the sun. Doing so could cause eye injuries, and may cause internal parts of the product to malfunction.



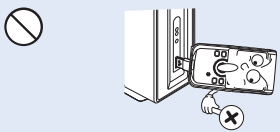
Do not dispose of the product in a fire. Fire can cause the battery to explode.

Never use cleaning fluid or similar chemicals to clean the product. Do not spray cleaners directly on the product.

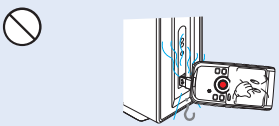
Keep the used memory card out of the reach of children. If the memory card is swallowed by a child, consult a physician immediately.

If the product emits an abnormal sound or smell, or smokes, immediately request service from a Samsung service centre. There is a risk of fire or personal injury.

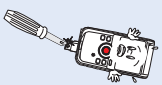
⚠ WARNING



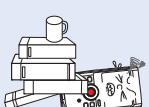
Connect the USB plug to a USB jack on a PC or an adaptor. Do not insert the plug forcibly if it does not match the jack. You can break the plug.



If the USB cable gets hot or the product emits an abnormal sound or smell when charging or when sending data, unplug the USB plug immediately and request service from a Samsung service centre. There is risk of fire or personal injury.



Don't disassemble or attempt to repair the USB plug or the product. There is a risk of fire or electric shock.

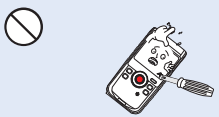


Do not place heavy objects on the USB plug. Heavy objects can cause the cable to break or disconnect from the product.

Do not open and close memory card cover or USB plug cover near or in the water. Do not open or close the cover with wet hands. Otherwise, it may cause electric shock or damage to the product.

Do not touch the USB cable or plug with wet hands. There is a risk of electric shock.

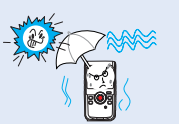
CAUTION



Do not press the surface of the LCD with force, or hit it with a sharp object. If you push the LCD surface, you can cause unevenness in the display.

Do not drop or expose the product or other accessories to severe vibrations or impact. This can cause the product or accessory to malfunction or cause personal injury.

Do not use the product on a tripod (not supplied) in a place where the tripod is subject to severe vibrations or impact.



Do not use the product in direct sunlight or near heating equipment.
The heat may cause a malfunction or injury.

Do not leave the product in a closed vehicle for a long time, where the temperature is very high. High temperatures can cause the product to malfunction and the battery to explode or burst into flame.

Do not expose the product to soot or steam. Thick soot or steam could damage the product case or cause it to malfunction.

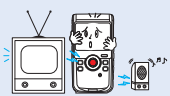
Do not use the product near dense exhaust generated by gasoline or diesel engines, or near a corrosive gas such as hydrogen sulphide. Doing so may corrode the external or internal terminals, disabling normal operation.

Do not expose the product to insecticide. Insecticide entering the product could cause the product to operate abnormally. Turn the product off and cover it with vinyl sheet, etc. before using insecticide.

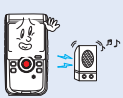
CAUTION

Do not expose the product to sudden changes in temperature or high humidity. There is also a risk of product failure or electric shock if you use the product outdoors during lightning storms.

Do not wipe the product body with benzene or thinner. The exterior coating could peel off or the case surface could deteriorate.



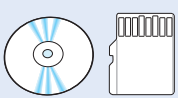
Do not use the product near a TV or radio. It can cause distortion on the TV screen or interference on the radio.



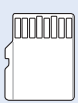
Do not use the product near sources of strong radio waves or magnetism such as speakers or large motors. Noise from these sources could distort the video or audio you are recording.

Use Samsung-approved accessories only. Using products from other manufacturers may cause overheating, fire, explosion, electric shock, or personal injuries caused by abnormal operation.

Place the product on a stable surface that is well ventilated.



Keep important data separately. Samsung is not responsible for data loss.



Manufacturers of unauthorised accessories compatible with this product are responsible for their own products. Use the optional accessories according to their safety instructions. Samsung is not responsible for any malfunctions, fires, electric shocks, or damage caused by unauthorised accessories.

To maintain water-proof performance, replace related parts annually. For replacement of such parts, consult your Samsung service centre.

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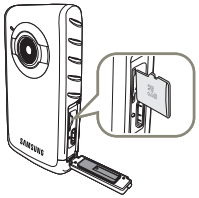
Quick start guide

This quick start guide introduces the basic operation and features of your product. See the reference pages for more information.

STEP 1: Get ready

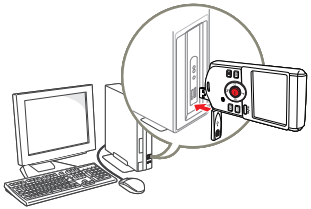
1 Insert a memory card. ➥page 29

- You can use commercially available micro SDHC or micro SD memory cards with this product.



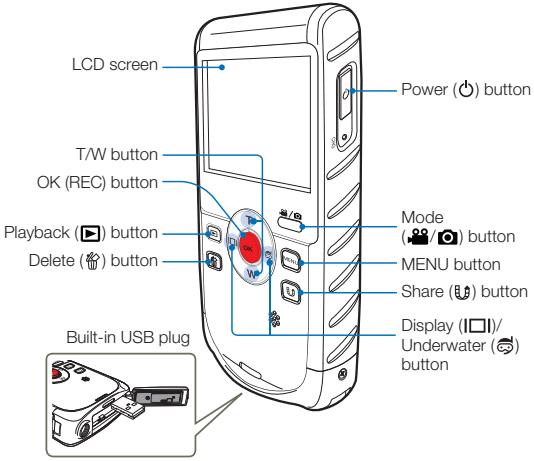
2 Charge the battery fully. ➥page 21

- The battery is fully charged when the CHG (charging) indicator light turns green.



Battery for this product is equipped inside the product. No additional battery is required, charge the product's internal battery via USB connection.

STEP 2: Record with your product



Recording videos

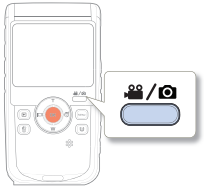
Your product uses advanced H.264 compression technology to give you the clearest video quality.

Using Underwater mode

The product provides general water-proof performance which enables underwater recording in sea, river and lake. Enable the underwater mode to record clear video under water. Read and understand cautions on underwater recording before use. ➥page 37

1 Press the **Power** (⏻) button.

2 Press the **Mode** (🎥/📷) button to set the video recording mode.



3 Press the **OK (REC)** button.

- To stop recording, press the **OK (REC)** button again.

Recording photos

You can take photos and store them in the storage media. Set the desired resolution before recording.

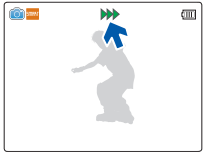
1 Press the **Power** (⏻) button.

2 Press the **Mode** (🎥/📷) button to set the photo recording mode.

3 Frame the subject in the LCD screen, and half-press the **OK (REC)** button.

4 Press the **OK (REC)** button fully when the subject is in focus.

- The shutter sound is heard and the photo is recorded.



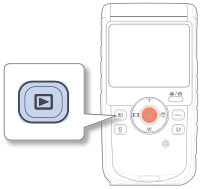
- The default video resolution setting is "**720/25p**".
- You can also take photos while recording a video. ➥page 35

STEP 3: Play back videos or photos

Viewing videos or photos on the LCD screen

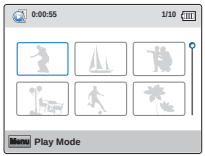
You can find recordings quickly by using the thumbnail index view.

1 Press the **Playback** (▶) button to set the playback mode.



2 In Play Mode, select "**Video**" or "**Photo**". ➥page 52
- The recorded videos or photos appear in the thumbnail index view.

3 Press the **T**/**W**/**Display** (|□|)/**Underwater** (🐟) button to select the desired video or photo, then press the **OK (REC)** button.

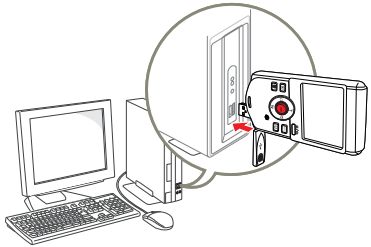


STEP 4: Save recorded videos or photos

Using the Intelli-studio programme built into your product, you can import videos/photos into your computer and edit or share the videos/photos with your friends and family. For details, see pages 65~70

Importing videos/photos from the product to your PC and viewing them on your PC screen

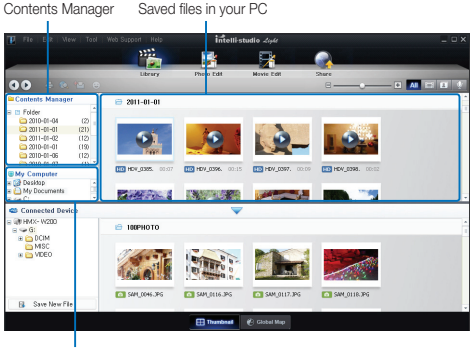
1 Start the Intelli-studio programme by connecting the built-in USB plug of the product to the PC.
- A new file saving screen appears with the Intelli-studio main window. Click "**Yes**". The uploading procedure starts.



Intelli-studio runs automatically after you have connected your product to a Windows computer (if you have set "**PC Software: On**"). ➥page 62

2 Any new files are saved to your PC and registered to "**Contents Manager**" in the Intelli-studio programme.

- You can arrange the files by different options such as Face, Date, Location, etc.



3 Double-click the file you would like to play back.

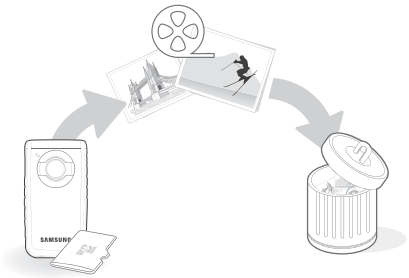
Sharing videos/photos on Web sites

Share your contents with the world, by uploading videos and photos directly to a web site with a single click.
Click "**Share ( )**" → "**Upload**" on the browser. ➥page 69

STEP 5: Delete videos or photos

If the product's storage media is full, you cannot record new videos or photos. Delete videos or photos you've saved to your computer from the product's storage media.
Then you can record new videos or photos in the newly freed-up space.

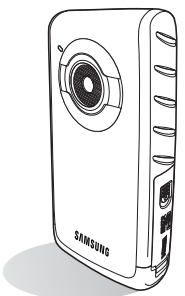
Playback (▶) → Select files by using **T/W/Display** (I□I)/**Underwater** (🐠) → **Delete** (🗑) → **Display** (I□I)/**Underwater** (🐠)/**OK (REC)** ➥page 53



Getting to know the product

WHAT'S INCLUDED WITH YOUR PRODUCT

Your new product comes with the following accessories. If any of these items is missing from your box, call Samsung's Customer Care Centre.



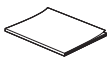
Model name	Colour	Internal memory	Lens
HMX-W200RP HMX-W200TP	Red Titan grey	No	Digital zoom: x3

Although the models have some features that are different, they operate in the same way.

Checking your accessories

Strap

User manual CD



Quick start guide

Optional accessories

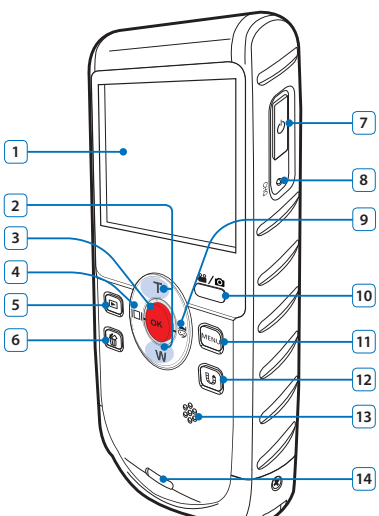
Micro SD/SDHC card

Mini HDMI cable

- The exact appearance of each item may vary by model.
- The contents may vary depending on the sales region.
- You can purchase parts and accessories from your local Samsung dealer. SAMSUNG is not responsible for reduced battery life time or malfunctions caused by any unauthorised use of accessories.
- A memory card is not included. See page 30 for memory cards compatible with your product.
- Your product includes the user manual CD and the printed quick start guide.

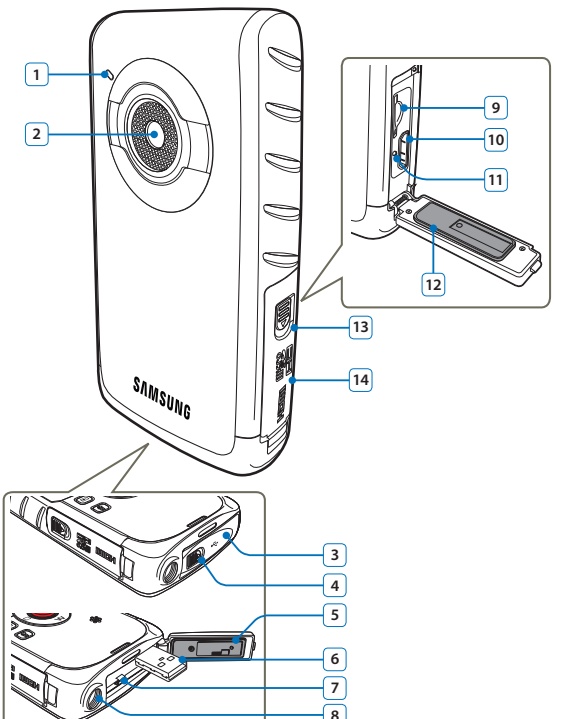
LOCATION OF CONTROLS

Rear/Left



1	LCD screen
2	T/W button
3	OK (REC) button
4	Display (I□I) button
5	Playback (▶) button
6	Delete (🗑) button
7	Power (⏻) button
8	CHG (Charging) indicator
9	Underwater (🐟) button
10	Mode (🎥/📷) button
11	MENU button
12	Share (⇪) / Pause button
13	Internal speaker
14	Strap hook

Front/Right/Bottom



1	Internal microphone
2	Lens
3	Cover (Built-in USB plug)
4	Open/Close lever (Built-in USB plug)
5	Water-proof seal (Built-in USB plug)
6	Built-in USB plug
7	Built-in USB open lever
8	Tripod receptacle
9	Memory card slot
10	HDMI jack
11	Reset button
12	Water-proof seal (Memory card, HDMI jack)
13	Open/Close lever (Memory card, HDMI jack)
14	Cover (Memory card, HDMI jack)

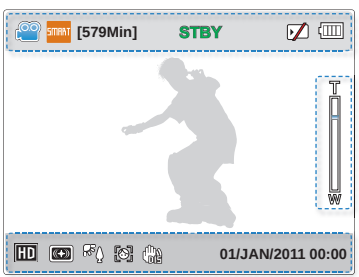
Be careful not to cover the internal microphone and lens during recording.

IDENTIFYING THE SCREEN DISPLAYS

The available functions vary depending on the operation mode you have selected. Different indicators appear depending on the setting values.

- This On Screen Display (OSD) is shown in the video recording mode only.
- Press the **Mode** (/) button to set the video recording mode. ➥page 25

Video recording mode



Top of the LCD screen

Indicator	Meaning
	Video recording mode
/ *	Smart Auto / Underwater mode
[579Min]	Remaining recordable time
STBY / / /	Operating status (standby/ recording/pause/photo capturing)
	Storage media (memory card)
	Battery information (remaining charge level)

Bottom of the LCD screen

Indicator	Meaning
HD	Video Resolution
*	Smart Filter
	Back Light
	Face Detection
	Anti-Shake (DIS)
01/JAN/2011 00:00	Date/Time

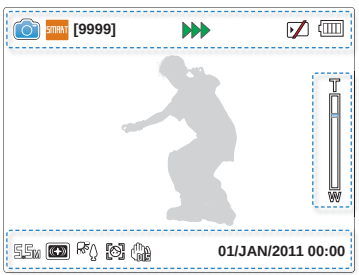
Right of the LCD screen

Indicator	Meaning
T W	Digital Zoom bar

- Settings of functions marked with * are not retained when the product is turned off.
- The on-screen indicators are based on a micro SDHC memory card with a 32GB capacity.
- The screen above is an example and may differ from the actual display.
- For warning indicators and messages, see pages 73~75
- The illustrated items above and their positions can be changed without notice to improve performance.

- This On Screen Display (OSD) is shown in the photo recording mode only.
- Press the **Mode** (/) button to set the photo recording mode. ➥page 25

Photo recording mode



Top of the LCD screen

Indicator	Meaning
	Photo recording mode
/ *	Smart Auto / Underwater mode
[9999]	Photo counter (total number of recordable photos)
/	Operating status (focusing/photo capturing)
	Storage media (memory card)
	Battery information (remaining charge level)

Bottom of the LCD screen

Indicator	Meaning
	Photo Resolution
*	Smart Filter
	Back Light
	Face Detection
	Anti-Shake (DIS)
01/JAN/2011 00:00	Date/Time

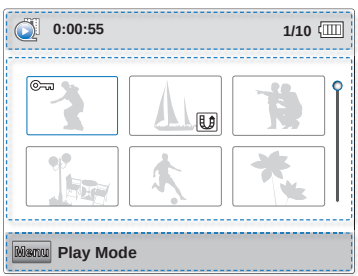
Right of the LCD screen

Indicator	Meaning
T W	Digital Zoom bar

- Settings of functions marked with * are not retained when the product is turned off.
- The total number of recordable photos is based on available space on the storage media.
- The largest number the OSD Image Counter can display is “9,999”.

- This On Screen Display (OSD) is shown in the video playback mode only.
- Press the **Playback** (▶) button to set the playback mode. ➥page 39

Video playback mode : Thumbnail view



Top of the LCD screen

Indicator	Meaning
	Video playback mode
0:00:55	Duration of video
1/10	Current video/Number of total recorded videos
	Battery information (remaining battery level)

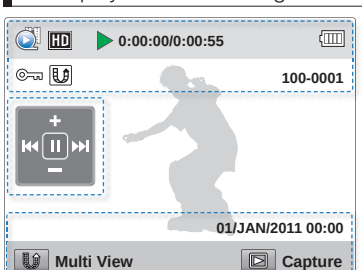
Centre of the LCD screen

Indicator	Meaning
	Protect
	Share mark
	Scroll bar

Bottom of the LCD screen

Indicator	Meaning
Menu Play Mode	Button guide

Video playback mode: Single view



The on-screen indicators appear briefly. They reappear when you press the **OK (REC)** button.

Top of the LCD screen

Indicator	Meaning
	Video playback mode
HD	Video Resolution
▶/❚❚/◀◀/▶▶/❚▶	Operating status (playback/pause/search/forward slow motion playback)
0:00:00/0:00:55	Time code (elapsed time/recorded time)
	Battery information (remaining battery level)
	Erase protection
	Share mark
100-0001	File name (file number)

Centre of the LCD screen

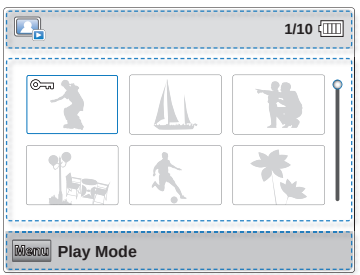
Indicator	Meaning
	- Previous skip/Rewind (⏮/◀◀) - Forward skip/Fast Forward (⏭/▶▶) - Volume up/down (✚/▬) - Playback/Pause (▶/❚❚) - Forward slow motion playback (❚▶)

Bottom of the LCD screen

Indicator	Meaning
01/JAN/2011 00:00	Recorded date/time
Multi View Capture	Button guide

- This On Screen Display (OSD) is shown in the photo playback mode only.
- Press the **Playback** (▶) button to set the playback mode. ➥page 39

Photo playback mode: Thumbnail view



Top of the LCD screen

Indicator	Meaning
	Photo playback mode
1/10	Current photo/Number of total recorded photos
	Battery information (remaining battery level)

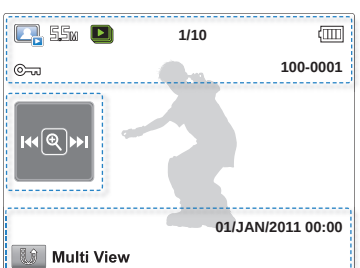
Centre of the LCD screen

Indicator	Meaning
	Protect
	Scroll bar

Bottom of the LCD screen

Indicator	Meaning
Menu Play Mode	Button guide

Photo playback mode: Single view



Top of the LCD screen

Indicator	Meaning
	Photo playback mode
5M	Photo Resolution
	Slide show
1/10	Current photo/Number of total recorded photos
	Battery information (remaining battery level)
	Erase protection
100-0001	File name (file number)

Centre of the LCD screen

Indicator	Meaning
	- Previous/Next photo (⏮/⏭) - Playback zoom (🔍)

Bottom of the LCD screen

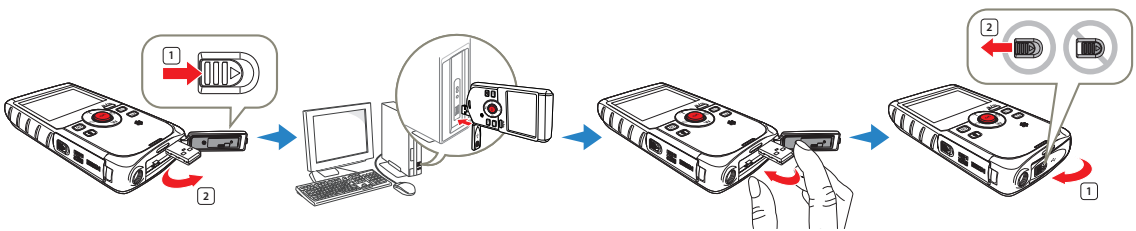
Indicator	Meaning
Multi View	Button guide
01/JAN/2011 00:00	Recorded date/time

The on-screen indicators appear briefly. They reappear when you press the **OK (REC)** button.

CHARGING THE BATTERY

Battery for this product is equipped inside the product.

- Be sure to charge the battery before you start using your product.
- You can charge the battery with the built-in USB plug.



1 Press the **Power** (⏻) button to turn off the product.

2 Slide and open the Open/Close lever in the direction of the arrow to pop out the built-in USB plug, as shown in the figure.
- When you press the USB open lever, the USB plug will pop out if the built-in USB plug cover is open.

3 Connect the built-in USB plug of the product to the USB port of a PC and please check if the USB port complies with the standard of rated power limit.
- The charging (CHG) indicator lights up and charging starts. After the battery is fully charged, the charging (CHG) indicator turns green.

4 When the charging is completed, detach the USB plug from the PC, and then push in the built-in USB plug.

5 Slide and close the Open/Close lever in the direction of the arrow to close the built-in USB plug cover, as show in the figure.

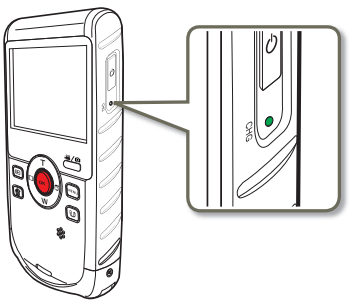
- Do not push the built-in USB plug forcibly.
- Depending on your computer environment, you can attach an external USB cable (not supplied) to the product's USB plug and your computer's USB port to charge the product.
- The battery is not charged while you are operating the product connected to a PC. Turn the product off and then charge the battery by connecting the built-in USB plug of the product to a PC.

CHECKING THE BATTERY STATE

You can check the charging state and remaining battery capacity.

To check the charging state

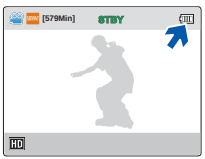
The colour of the LED indicates the power or charging state.



(Orange)	Charging
(Orange blink)	Error
(Green)	Fully charged

Battery level display

The battery level display shows the amount of power remaining in the battery.



Battery level indicator	State	Message
	Fully charged	-
	25~50% used	-
	50~75% used	-
	75~95% used	-
	95~98% used	-
	Exhausted (flickers): The product will be forced to turn off after 3 minutes. Charge the battery as soon as possible.	-
-	After 3 seconds, the product turns off.	"**Low Battery**"

The figures above are based on a fully charged battery at a normal temperature. Low ambient temperature may affect the use time.

Available running time for the battery

Charging time	Approx. 270min. (Use the built-in USB plug)	
Mode / Resolution	Continuous recording time	Playback time
1080/25p	Approx. 120 min.	Approx. 180 min.
720/25p	Approx. 130 min.	Approx. 200 min.

- Charging time: Approximate time in minutes required to fully charge a completely exhausted battery.
- Recording/Playback time: Approximate time available when you have fully charged the battery.
- Times shown above are measured under Samsung's test conditions. Your times may differ, depending on your usage and conditions.

- The recording and playback times will be shorter when you use your product in low temperatures.
- The charging time will vary depending on the remaining battery level.
- Depending on your PC specifications, the charging time can be prolonged.

Continuous recording (without zoom)

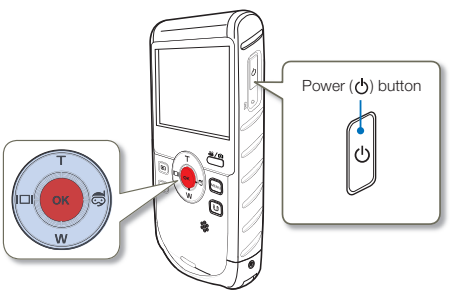
The continuous recording time above shows the available recording time when you record without using any other function after recording starts.
The battery may discharge 2-3 times faster than this reference if you use the recording start/stop, zoom, and playback functions.

About the battery

- **Battery properties**
  A lithium-ion battery is small-sized and has a high capacity. Low ambient temperature (below 10ºC (50ºF)) may shorten its usage time and affect its function.
- **Be careful not to completely discharge the battery.**
  - When fully discharged, a battery damages the internal cells. The battery may be prone to leakage when fully discharged.
  - If the battery is not used for a long time, fully charge the battery and then, using your product, drain the charge completely once every 3 months to keep the battery functioning properly.
  - A battery which is completely discharged may not turn on the recharging LED during charging. It is designed to protect the battery. When charge starts but the charge indicator does not light even within 5 minutes, contact your local Samsung dealer.
- **The battery lifetime is limited.**
  - Battery capacity decreases over time and through repeated use. If decreased usage time between charges becomes significant, it is probably time to replace the battery with a new one. Contact your local Samsung dealer.
  - Each battery's life is affected by storage, operating, and environmental conditions.

TURNING YOUR PRODUCT ON/OFF

You can turn the power on or off by pressing the **Power** (⏻) button.



- The product operates the self-diagnosis function when powered on. ➥pages 73~75
- Press the **Reset** button with any sharp object if the product does not turn on. ➥page 81

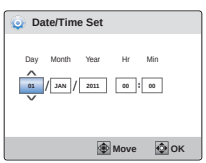
When using this product for the first time

When you use your product for the first time or reset it, the date/time set screen appears at start-up. Set the date and time.

SETTING THE DATE/TIME FOR THE FIRST TIME

Set the date and time of your local area when you turn on the product for the first time.

1 Press the **Power** (⏻) button to turn on the product.
- When you turn on your product for the first time, the Date/Time Set screen appears.



2 Set each date or time value by pressing the **T**/**W** buttons.
- To move left or right, press the **Display** (I◻I) or **Underwater** (🐟) button.

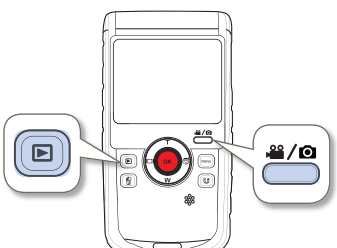
3 After setting minutes, press the **OK (REC)** button.
- The product exits the date/time screen.

- The year can be set up to 2037.
- Set "**Date/Time Display**" to On. ➥page 59
- User settings may be initialised to the default if the internal battery has been discharged completely. After using the product, recharge it before storing.
- When the internal battery has been discharged completely, the Date/Time setting resets to "**01/JAN/2011 00:00**".

SETTING THE OPERATION MODES

You can switch the operating mode in the following order each time you press the **Mode** (🎥/📷) button: Video recording mode ↔ Photo recording mode.

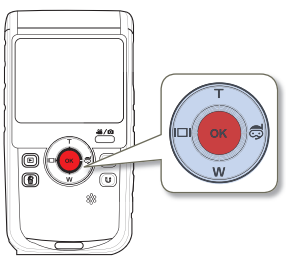
- Each time the operation mode changes, the respective mode indicator appears.
- Pressing the **Playback** (▶) button in the recording mode switches to the playback mode.



Mode	Mode indicator	Functions
Video recording mode		To record videos.
Photo recording mode		To record photos.
Playback mode	/	To play back videos or photos.

USING THE T/W/DISPLAY (▭)/ UNDERWATER (🤿)/OK (REC) BUTTON

The functions of the **T**/**W**/**Display** (▭)/**Underwater** (🤿)/**OK (REC)** buttons vary according to the operation mode you are using. The following tables list the buttons and the functions they perform in each mode.



Menu screen

Button	Menu screen
T	Moves the cursor up
W	Moves the cursor down
▭	Moves to the previous menu
🤿	Moves to the next menu
OK (REC)	Confirms selection

Recording mode

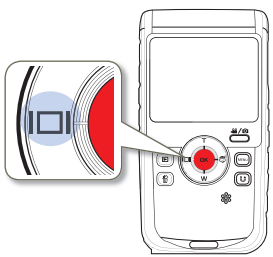
Button	Video recording mode	Photo recording mode
T	Digital zoom (telephoto) ➥page 38	Digital zoom (telephoto) ➥page 38
W	Digital zoom (wide-angle) ➥page 38	Digital zoom (wide-angle) ➥page 38
	Display ➥page 27	Display ➥page 27
	Underwater mode ➥page 37	Underwater mode ➥page 37
OK (REC)	Video recording start/stop ➥page 33	Photo capturing ➥page 36

Playback mode

Button	Video playback mode (Single view)	Photo playback mode (Single view)
T	Increases the volume ➥page 41	-
W	Decreases the volume ➥page 41	-
	- Search playback RPS (Reverse Playback Search) rate: x2 → x4 → x8 → x16 ➥page 41 - Previous skip playback ➥page 41	Previous image ➥page 43
	- Search playback FPS (Forward Playback Search) rate: x2 → x4 → x8 → x16 ➥page 41 - Next skip playback ➥page 41 - Forward slow motion playback ➥page 41	Next image ➥page 43
OK (REC)	Playback/Pause ➥page 41	Playback zoom ➥page 44

SWITCHING THE INFORMATION DISPLAY MODE

You can display or hide the on-screen information.



Press the **Display** (▭) button in the standby mode.

- The full and minimum display modes alternate.

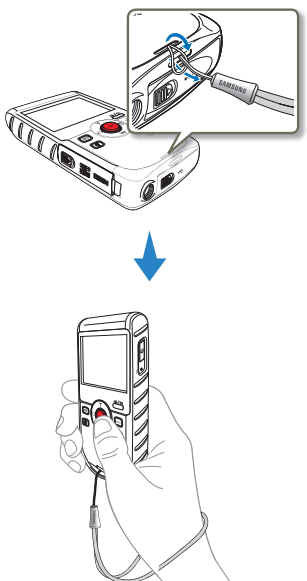
<Full display mode>

<Minimum display mode>

Warning indicators and messages may appear depending on the recording conditions. ➥pages 73~75

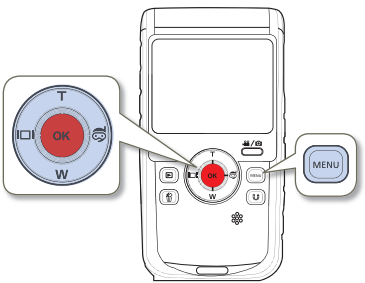
USING THE STRAP

Attach the strap and place your hand through the loop to prevent the product from being dropped.



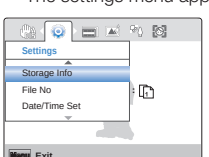
SELECTING THE OSD LANGUAGE

You can select the language of the menu or messages displayed on the LCD screen. The product retains the language setting even when you turn it off.

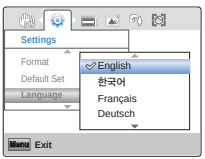


1 Press the **MENU** button.
- The menu screen appears.

2 Press the **Display** (I▭I)/**Underwater** (🐟) button to select "**Settings**".
- The settings menu appears.



3 Press the **T**/**W** button to select "**Language**", and then press the **OK (REC)** button.



4 Press the **T**/**W** button to select the desired OSD language, and then press the **OK (REC)** button.

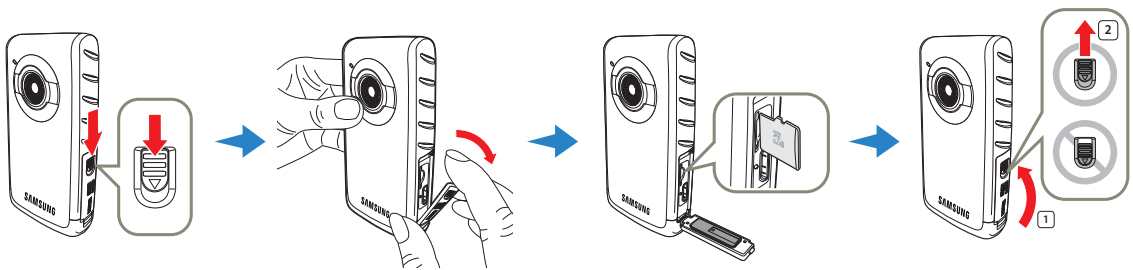
5 To exit, press the **MENU** button.
- The product displays the menus and messages in the language you selected.

Supported languages

English	한국어	Français	Deutsch	Italiano
Español	Português	Русский	中文	ایرانی

- "**Language**" options may be changed without prior notice.
- The date and time format may change depending on the selected language.

INSERTING/EJECTING A MEMORY CARD (NOT SUPPLIED)



To insert a memory card

1 Turn off the product, then slide and open the Open/Close lever in the direction of the arrow to open the memory card cover, as shown in the figure.

2 Insert the memory card into the card slot until it softly clicks.
- Make sure that the brand label portion of the card is facing left and the product is placed as shown in the figure.

3 Slide and close the Open/Close lever in the direction of the arrow to close the memory card cover, as show in the figure.

To eject a memory card

1 Turn off the product, then slide and open the Open/Close lever in the direction of the arrow to open the memory card cover, as shown in the figure.

2 Gently push the memory card to eject it.

3 Slide and close the Open/Close lever in the direction of the arrow to close the memory card cover, as show in the figure.

- To avoid the data loss, turn off the product by pressing the **Power** (⏻) button before inserting or ejecting the memory card.
- If you eject the memory card from the product while it is on, the product turns off.
- Be careful not to push the memory card too hard. The memory card may suddenly pop out.

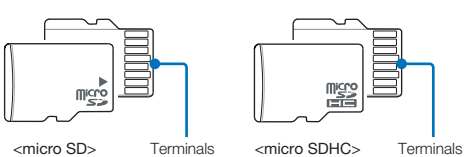
Your product supports only micro SD and micro SDHC cards.
The compatibility with the product may vary depending on the manufacturer and the type of memory card.

SELECTING A SUITABLE MEMORY CARD (NOT SUPPLIED)

Compatible memory cards

- You can use micro SD and micro SDHC cards with this product. We recommend you use a micro SDHC card. This product supports micro SD cards up to 2GB. We cannot guarantee normal operation with micro SD cards bigger than 2GB.
- MMC (Multi Media Card) and MMC Plus are not supported.
- Compatible memory cards and capacities:
  micro SD card: 1GB ~ 2GB
  micro SDHC card: 4GB ~ 32GB
- When you use unauthorised memory cards, the product cannot record videos correctly and your recordings may be lost.
- The memory cards released after this product launch may not be compatible with the product.
- For video recording, use a memory card that supports faster write speeds (above micro SDHC Class 6 card).

Usable memory card (1GB~32GB)



Micro SDHC (Secure Digital High Capacity) cards

- A micro SDHC card is a higher version (Ver. 2.00) of the micro SD card and supports capacities above 4GB.
- Use micro SD cards only with micro SD enabled host devices.

Handling a memory card

- Damaged data may not be recoverable. We recommend you make a back-up of important data separately on the hard disk of your PC.
- Turning the power off or removing a memory card during an operation such as formatting, deleting, recording, and playback may cause data loss.
- If you modify the name of a file or folder stored in the memory card with your PC, your product may not recognise the modified file.
- The micro memory card does not support any data recovery mode. Therefore, care should be taken in case the memory card is damaged while recording.
- We recommend that you power off the product before inserting or removing the memory card to avoid data loss.
- Make sure to format the memory card on this product. If the memory card had been formatted by a PC or other device, using it on this product without reformatting may cause recording and/or playback failure. Samsung is not responsible for damage to recorded contents caused by incompatible formatting.
- You have to format newly-purchased memory cards, memory cards with data that your product cannot recognise or with data saved by other devices. Note that formatting erases all data on the memory card and deleted data cannot be recovered.
- A memory card has a certain life span. If you cannot record new data, you have to purchase a new memory card.
- Do not bend, drop, or subject the card to strong impacts.
- Do not place foreign substances on the memory card terminals. Use a soft dry cloth to clean the terminals if required.
- Do not paste anything other than the label provided with the card on the label pasting area of the card.
- Do not use a damaged memory card.
- Be careful to keep the memory card out of the reach of children, who might swallow it.

This product supports micro SD and micro SDHC memory cards, giving you a wider choice of cards!
The data storage speed may differ, depending on the manufacturer and production system.

- SLC (Single Level Cell) system: faster write speed enabled.
- MLC (Multi Level Cell) system: only lower write speed is supported.

For best results, we recommend using a memory card that supports a faster write speed.
Using a lower write speed memory card for recording video may cause difficulties when storing.
You may even lose your video data during the recording.
In an attempt to preserve every bit of the recorded video, the product forcibly stores the video on the memory card and displays a warning:
"**Low speed card. Please record at a lower resolution.**"
If you are unavoidably using a low speed memory card, the resolution of the recording may be lower than the set value.
➥page 47
The higher the resolution and quality, the more memory the product uses.

Using the memory card adaptor

This product uses micro SD/micro SDHC memory cards.
To use a micro SD/micro SDHC directly with a computer or a card reader you must attach it to or insert it into an adaptor.

- Samsung is not responsible for data loss due to misuse, including loss caused by any PC virus.
- We recommend using a memory card case to avoid data loss that can be caused by moving the card or by static electricity.
- After a period of use, the memory card may get warm. This is normal and is not a malfunction.

RECORDABLE TIME AND CAPACITY

Listed below are the available video recording times and the number of photos the product can take, by card memory size and resolution. Refer to the recordable video time and the number of photos when recording videos or taking photos.

Recording time available for video in minutes

Resolution	Storage media capacity					
	1GB	2GB	4GB	8GB	16GB	32GB
1080/25p	8	17	34	69	139	279
720/25p	17	33	66	134	269	540

(Unit: Approximate minutes of recording)

Recordable number of photos

Resolution	Storage media capacity					
	1GB	2GB	4GB	8GB	16GB	32GB
2720 x 2040	690	1,350	2,710	5,450	9,999	9,999
2048x1536	1,000	1,950	3,930	7,900	9,999	9,999
1920x1080	1,340	2,630	5,270	9,999	9,999	9,999
640x480	3,700	7,240	9,999	9,999	9,999	9,999

(Unit: Approximate number of images)

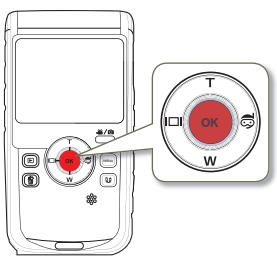
1GB ≒ 1,000,000,000 bytes : Actual formatted capacity may be less as the internal firmware uses a portion of the memory.

- Actual recording times may differ depending on the recording conditions and the subject.
- The higher the resolution, the more memory is used.
- Lower resolution increases the recording time, but the image quality may suffer.
- The bit rate automatically adjusts to the recording image. Accordingly, the recording time may vary.
- Memory cards bigger than 32GB may not operate normally.
- The maximum continuous recording time is under 20 minutes. The maximum video file size is 1.8GB.
- The maximum number of recordable photo and video files is 9,999 respectively.

RECORDING VIDEOS

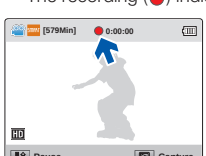
Set the resolution you want before recording. ➥page 47

- Insert a memory card. ➥page 29
- Press the **Mode** (🎥/📷) button to set the video recording mode. ➥page 25



1 Select a subject to record.
- Use the **T/W** button to adjust the size of the subject. ➥page 38
- This product automatically detects the scene when you align the subject. ➥page 37

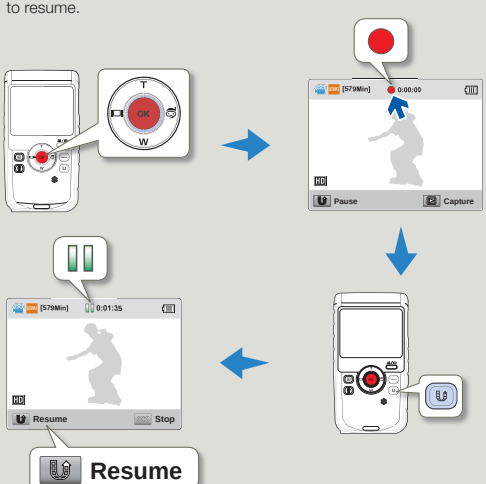
2 Press the **OK (REC)** button.
- The recording (●) indicator appears, and recording starts.



3 To stop recording, press the **OK (REC)** button again.

Record Pause

The product allows you to pause temporarily while recording a video. With this function, you can record your favourite scenes as a single video.
Press the **Share** (🤳) button to pause while recording. Press it again to resume.



If pausing during video recording lasts for 5 minutes, the product will be turned off automatically. (if you have set "**Auto Power Off: 5 Min**"). ➥page 61

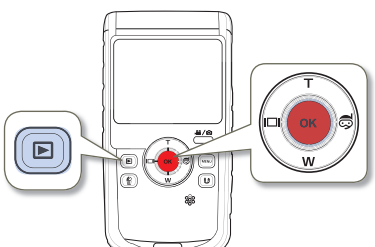
- If the power is interrupted or an error occurs during recording, the video may not be recorded.
- Samsung is not responsible for any damage caused by a failure of normal recording or playback operation because of memory card error.
- Note that damaged data cannot be recovered.
- Do not turn off the product or remove the memory card while accessing the storage media. Doing so may damage the storage media or the data in the storage media.

- Videos are compressed in the H.264 (MPEG-4.AVC) format.
- For the on-screen information display, see page 17.
- For approximate recording time, see page 32.
- Sound is recorded from the internal stereo microphone located on the front of the product. Make sure that the microphone is not blocked.
- Before recording an important video, make sure to test the recording function to see if there any problems with the audio or video recording.
- For various functions available during recording, see pages 47~51.
- You can adjust the brightness of the LCD screen in the menu options. Adjusting the LCD screen does not affect the image being recorded. ➥page 59
- When you record indoors or in the dark places, ISO sensitivity is automatically adjusted. It can make interference effects on images and you cannot view the images recorded in the dark places correctly. We recommend you to use professional Products like a infrared product when recording at night.
- An image can be shaken when the Anti-Shake function is enabled if the product is mounted on a tripod or fixed on a place. Release the Anti-Shake function when the product is mounted on a tripod.

CAPTURING PHOTOS DURING VIDEO RECORDING

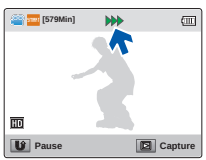
Your product can capture photos without interrupting video recording.

- Insert a memory card. ➥page 29
- Press the **Mode** (/) button to set the video recording mode. ➥page 25



1 Press the **OK (REC)** button.
- The recording (●) indicator appears, and recording starts.

2 While recording the video, frame the scene you want to photograph, and then press the **Playback** ( ) button.
- This product has recorded the photo image without a shutter sound.
- You can capture up to 5 photos during video recording.
- Video keeps recording, even while photos are taken.



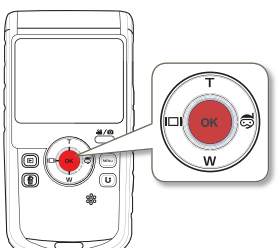
3 To stop recording, press the **OK (REC)** button again.

- Photos are captured in the video recording resolution.
- When you set the smart filter function, the product cannot capture a photo during the video recording. ➥page 48

RECORDING PHOTOS

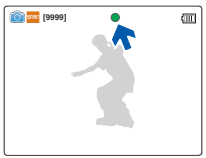
Set the desired resolution before recording. ➥page 47

- Insert a memory card. ➥page 29
- Press the **Mode** (🎥/📷) button to set the photo recording mode. ➥page 25



1 Select a subject to record.
- Use the **T/W** button to adjust the size of the subject. ➥page 38
- Your product automatically detects the scene when you align the subject. ➥page 37

2 Frame the subject in the LCD screen, and half-press the **OK (REC)** button.
- When the subject is in focus, the focusing (●) indicator appears. If it appears in red, readjust the focus.



3 Fully press the **OK (REC)** button.
- The shutter sound is heard and the photo is recorded.

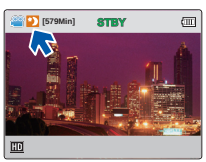
Do not turn off the product or remove the memory card while accessing the storage media. Doing so may damage the storage media or the data in the storage media.

- Recordable number of photos varies depending on the recording conditions and the photo resolution. ➥page 32
- Audio is not recorded when you take photos.
- For the on-screen display information, see page 18
- You can adjust the brightness of the LCD screen in the menu options. Adjusting the LCD screen does not affect the image being recorded. ➥page 59
- For various functions available during recording, see pages 47~51.
- Photo files conform to the DCF (Design rule for Camera File system) standard, established by JEITA (Japan Electronics and Information Technology Industries Association).

RECORDING WITH EASE FOR BEGINNERS (SMART AUTO)

User-friendly SMART AUTO optimises your product for the recording conditions automatically, providing beginners with the best performance.

This product automatically detects the recording conditions when you align a subject in the LCD screen and optimises the product settings. An appropriate scene icon appears at the LCD screen.



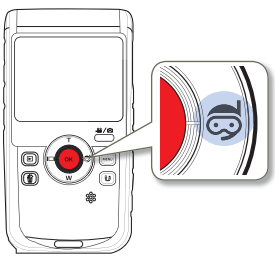
<When recording at night>

Scene icons	Meaning
	Appears when recording indoors. (Indoor)
	Appears when recording at night. (Night)
	Appears when recording a very bright scene. (snowy landscape/ski slope)
	Appears when recording people. (Portrait)

- When the product fails to recognise the recording situation, it records in the basic settings ( ).
- When you set the Smart Filter function, it records in the basic settings ( ).
- The product may not select the correct scene depending on shooting conditions, such as product shake, lighting, and distance to the subject.
- The product may not detect the portrait mode depending on the orientation or the brightness of faces.
- When you set the Face Detection to On, the Portrait ( ) mode can be activated in Smart Auto mode. ➥page 50

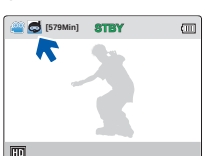
USING UNDERWATER MODE

The product provides general water-proof performance which enables the underwater mode to record clear video under water.



Press the **Underwater** ( ) button in the standby mode.

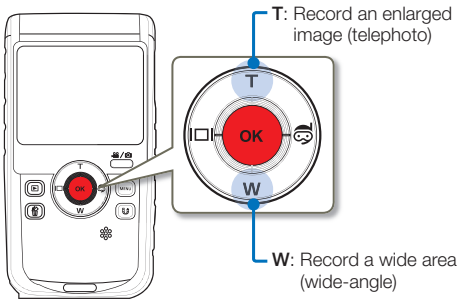
- The underwater mode On and Off alternate each time you press it.



- When you finish recording under water, turn the underwater mode off.
- Read and understand cautions on underwater recording before use. ➥pages ii~iii

ZOOMING

Use the zoom function for close-up or wide-angle recording.
Your product allows you to record using digital zoom with the **T**/**W** button.



To zoom in

Press the **T** button. (telephoto)

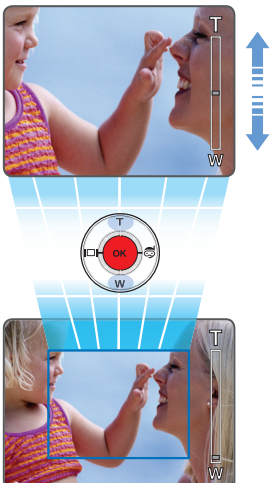
- The distant subject is gradually magnified.
- The product provides the following zoom magnification:
  - Digital zoom: x3

To zoom out

Press the **W** button. (wide-angle)

- The subject appears smaller and further away.
- The smallest zoom ratio is the subject's original size in the zoom-out.

T: Telephoto



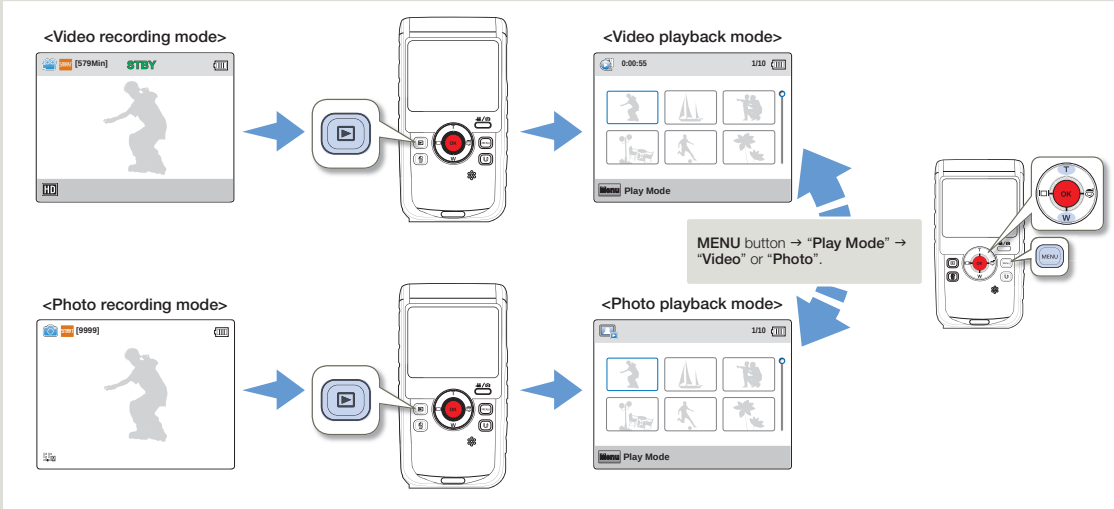
W: Wide-angle

- Note that the image quality decreases when you use the digital zoom. The image quality may deteriorate depending on how much you zoom in on the subject.
- Frequent use of the zoom function consumes more power.
- The minimum focal length between the product and the subject is about 7.9~9.8 inches (20~25 cm).
- The product can record the sound of the zoom mechanism.
- When using the zoom function and holding the product with your hand, use Anti-shake (DIS) for stable recording. ➥page 51

CHANGING THE PLAYBACK MODE

Understanding how to change the operation modes

- Press the **Playback** (▶) button to set the playback mode.
- When you shift to the playback mode, the most recently created file is highlighted in the thumbnail view.
- The product selects the thumbnail display options based on the standby mode you used the last time.
- You display video or photo thumbnails using the "**Play Mode**" menu. ➥page 52

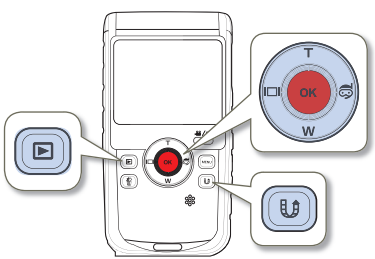


You can switch the playback mode to the video or photo recording mode by pressing the **Mode** (🎥/📷) button or **Playback** (▶) button.

PLAYING BACK VIDEOS

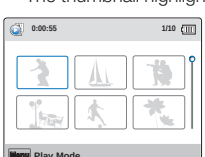
You can preview recorded videos in the thumbnail index view and find and play back a video directly.

- Insert a memory card. ➥page 29
- Press the **Playback** (▶) button to set the playback mode. ➥page 39



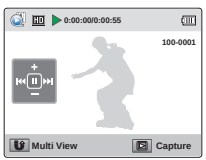
1 Set “**Play Mode**” to “**Video**”. ➥page 52

- When you select a video file, the playing back time appears on the screen.
- The thumbnail highlight is on the latest created or played file.



2 Press the **T**/**W**/**Display** (|□|)/**Underwater** (🐠) button to select the desired video, and then press the **OK (REC)** button.

- The product plays back the video you selected and the on-screen indicators appear briefly. They reappear when you press the **OK (REC)** button.



3 To return to thumbnail index view while playing back, use the **Share** (⎙) button.

Do not power off or eject the memory card during video playback. Doing so may damage the recorded data.

- It may take some time to start playback, depending on the size and quality of the selected video.
- The product may not play back the following video files:
  - A video recorded on another device.
  - A video whose file format is not supported by the product.
- You can use various playback options during video playback. ➥page 41
- The recorded videos can be played back on a TV or PC. ➥pages 64, 68

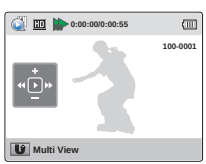
Various playback operations

Playback/Pause

1 Playback and pause alternate when you press the **OK (REC)** button during playback.
2 Press the **Share** (⇪) button to return to the thumbnail index view.

Search playback

1 During playback, press and hold the **Display** (|◻|)/**Underwater** (🐟) button for reverse search/forward search.
2 Pressing the **Display** (|◻|)/**Underwater** (🐟) button repeatedly increases the search speed in each direction.
   - RPS (Reverse Playback Search) rate: x2 → x4 → x8 → x16
   - FPS (Forward Playback Search) rate: x2 → x4 → x8 → x16



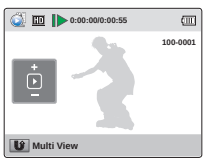
3 To resume normal playback, press the **OK (REC)** button.

Skip playback

- During playback, press the **Underwater** (🐟) button to locate the start point of the next file. Pressing the **Underwater** (🐟) button repeatedly skips files in the forward direction.
- During playback, press the **Display** (|◻|) button to locate the start point of the current file. Pressing the **Display** (|◻|) button repeatedly skips files in the reverse direction.
- Press the **Display** (|◻|) button within 3 seconds of the start point of the current file to skip back to the previous file.

Forward slow motion playback

1 During pause, press the **Underwater** (🐟) button to make the video go forwards slowly.



2 To resume normal playback, press the **OK (REC)** button.

Adjusting the volume

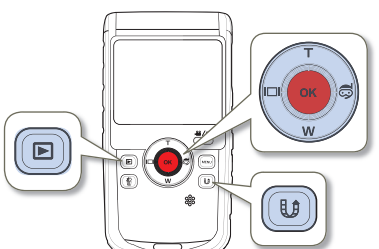
Press the **T**/**W** button to increase or decrease the volume.
- You can hear the recorded sound from the internal speaker.
- You can set the volume level anywhere between 0 and 10.

- You can hear the recorded sound only when the playback is at normal speed.
- The product switches to the thumbnail index view after the last file plays back if the playback does not stop.

CAPTURING PHOTOS WHILE PLAYING BACK VIDEO

You can capture photos during video playback.

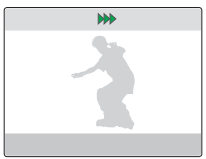
- Insert a memory card. ➥page 29
- Press the **Playback** (▶) button to set the playback mode. ➥page 39



1 Set “**Play Mode**” to “**Video**”. ➥page 52

2 Press the **T**/**W**/**Display** (|□|)/**Underwater** (🐟) button to select the video you want and then press the **OK (REC)** button.
- The selected video is played back.

3 Press the **Playback** (▶) button at the scene you want to capture.
- The captured photo is recorded in JPEG format.



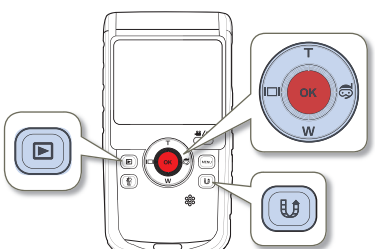
4 To return to thumbnail index view while playing back, use the **Share** (🤚) button.

Photos are captured in the resolution of the video recording.

VIEWING PHOTOS

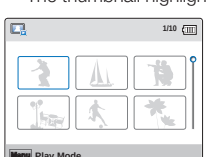
You can preview recorded photos in the thumbnail index view and find and play back a photo directly.

- Insert a memory card. ➥page 29
- Press the **Playback** (▶) button to set the playback mode. ➥page 39



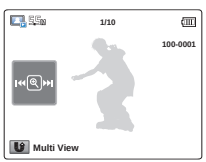
1 Set “**Play Mode**” to “**Photo**”. ➥page 52

- The thumbnail highlight is on the latest created or played file.



2 Press the **T**/**W**/**Display** (|□|)/**Underwater** (🐠) button to select the desired photo, and then press the **OK (REC)** button.

- The product displays the photo you selected in full screen view and the on-screen indicators appear briefly. They reappear when you press the **OK (REC)** button.
- To view the previous/next file, press the **Display** (|□|)/**Underwater** (🐠) button.



3 To return to the thumbnail index view, use the **Share** (🤚) button.

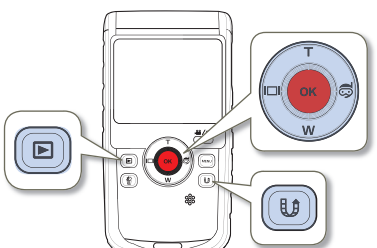
Do not power off the product or eject the memory card during photo playback. Doing so may damage the recorded data.

- Loading time may vary depending on the size and quality of the selected photo.
- Your product may not playback the following photo files normally:
  - A photo recorded on another device.
  - A photo with a file format not supported by this product. (One that does not conform to DCF standards.)
- This product supports the JPEG file format. (However, note that all JPEG files are not always played back.)

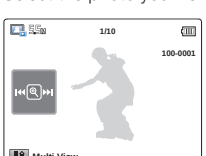
ZOOMING DURING PHOTO PLAYBACK

You can magnify a playback image using the **OK (REC)** button on the product.

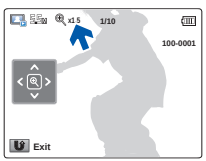
- Insert a memory card. ➥page 29
- Press the **Playback** (▶) button to set the playback mode. ➥page 39



1 Select the photo you want to magnify. ➥page 43



2 Adjust the magnification with the **OK (REC)** button.
- The screen is framed and the image is magnified starting from the centre of the image.
- You can zoom in from x1.3 to x2.0.



3 Press the **T**/**W**/**Display** (|□|)/**Underwater** (🐠) button to view the area you want on the magnified photo.

4 To cancel, use the **Share** (⇪) button.

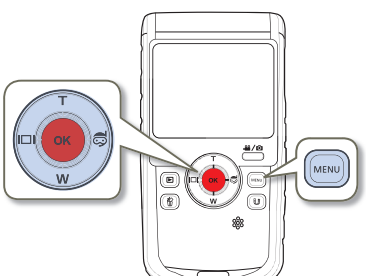
- Photos recorded on other devices or those edited on a PC cannot be magnified.
- While you are using the playback zoom, you cannot select other images.

Using the menu items

HANDLING MENUS

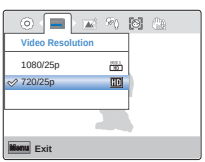
The instructions below are examples of how to access and use menu items using the **MENU** button. When you access and use other menu items, use these examples as guides.

Press the **Mode (/)** button to set the video recording mode. ➥page 25

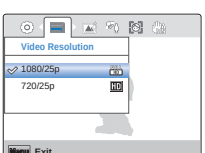


1 Press the **MENU** button.
- The menu screen appears.

2 Press the **Display (|□|)**/**Underwater ()** button to select "**Video Resolution**".
(The Video Resolution function is used here as an example.)



3 Press the **T**/**W** button to select the desired option, and then press the **OK (REC)** button.



4 To exit the menu, press the **MENU** button.

- When you are using certain menu items, some other menu items cannot be used at the same time, or may be greyed out. For more information, see Troubleshooting on page 81.
- For easy understanding, the menu setting procedures in the example above are explained using the simplest methods. Menu setting methods can differ depending on the menu options you choose.

MENU ITEMS

The items available in each menu vary depending on the operating mode.
For item operation details, see the page number listed under Page in the table.

Recording menu items

• : Available
X : Not Available

Items \ Operation mode	Video	Photo	Default value	Page
Video Resolution	•	X	720/25p	47
Photo Resolution	X	•	2720x2040	47
Smart Filter	•	•	Normal	48
Back Light	•	•	Off	49
Face Detection	•	•	Off	50
Anti-Shake(DIS)	•	•	Off	51
Settings	•	•	-	57~63

Playback menu items

• : Available
X : Not Available

Items \ Operation mode	Video		Photo		Default value	Page
	Thumbnail view	Single view	Thumbnail view	Single view		
Play Mode	•	X	•	X	Video	52
Delete	•	•	•	•	-	53
Protect	•	•	•	•	-	54
Share Mark	•	•	X	X	-	55
Slide Show	X	X	•	•	-	56
File Info	•	•	•	•	-	56
Settings	•	•	•	•	-	57~63

Menu options and default values may be changed without prior notice.

Advanced recording

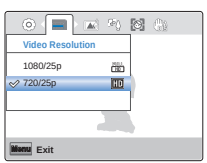
Video Resolution

You can select the resolution of video to be recorded.

Press the **Mode (/)** button to set the video recording mode. ➥page 25

1 Press the **MENU** button → **Display (|□|)**/**Underwater** () button → "**Video Resolution**".

2 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



3 Press the **MENU** button to exit the menu.

Submenu items

- **1080/25p** (): Records in the FULL HD (1920x1080 25p) format.
- **720/25p** (): Records in the HD (1280x720 25p) format.

- 25p indicates the product will record in progressive scan mode at 25 frames per second.
- Recorded files are encoded using Variable Bit Rate (VBR). VBR is an encoding system that automatically adjusts the bit rate according to the recording image.
- High resolution images occupy more memory space than low resolution images. If you select the higher resolution, there is less space to record videos in the memory.
- The recording times depend on the resolution of a video to be recorded. ➥page 32

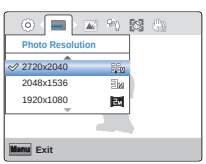
Photo Resolution

You can select the resolution of the photo to be recorded.

Press the **Mode (/)** button to set the photo recording mode. ➥page 25

1 Press the **MENU** button → **Display (|□|)**/**Underwater** () button → "**Photo Resolution**".

2 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



3 Press the **MENU** button to exit the menu.

Submenu items

- **2720x2040** (): Records in 2720x2040 resolution with 4:3 aspect ratio.
- **2048x1536** (): Records in 2048x1536 resolution with 4:3 aspect ratio.
- **1920x1080** (): Records in 1920x1080 resolution with 16:9 aspect ratio.
- **640x480** (): Records in 640x480 resolution with 4:3 aspect ratio.

- The number of recordable images differs according to the photo resolution you select. ➥page 32
- Photos that are recorded on your product may not playback properly on other digital devices that do not support these photo sizes.

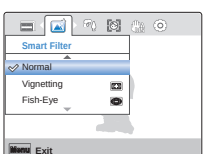
Smart Filter

By applying special effects, you can add fun and character to an image. You can apply various filter effects to create unique images.

Press the **Mode (/)** button to set the video recording or the photo recording mode. ➥page 25

1 Press the **MENU** button → **Display (|□|)**/**Underwater ()** button → "**Smart Filter**".

2 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



3 Press the **MENU** button to exit the menu.

Submenu items

- **Normal**: Without any smart filter effect, the product displays a normal, natural image during recording or playback.
- **Vignetting ()**: Apply the retro-looking colours, high contrast, and strong vignette effect of lomo cameras.
- **Fish-eye ()**: Distort close objects to imitate the visual effect of a fish-eye lens.
- **Retro ()**: Apply a sepia tone effect.
- **Classic ()**: Apply a black and white effect.
- **Negative ()**: Apply a negative film effect.

Example of Smart Filter

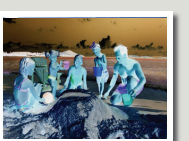
Normal

Vignetting

Fish-eye

Retro

Classic


Negative

- When you apply a smart filter effect while recording a video, the recording speed will be set to 15 fps and the recording resolution will be set to 640x480 (SD).
- The following functions cannot be used when the product is in the Smart filter mode:
  - Digital zoom, "**Video Resolution**", "**Anti-Shake (DIS)**", "**Face Detection**"

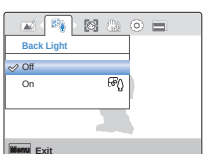
Back Light

When a subject is lit from behind, this function compensates for back lighting so that the subject does not appear too dark.

Press the **Mode (/)** button to set the video recording or the photo recording mode. ➥page 25

1 Press the **MENU** button → **Display (|□|)**/**Underwater ()** button → "**Back Light**".

2 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



3 Press the **MENU** button to exit the menu.

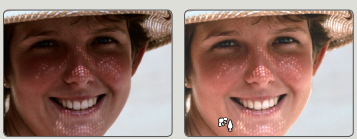
Submenu items

- **Off**: Disables the function.
- **On ()**: Backlight compensation brightens the subject.

Use the Back Light function in the following cases

It typically occurs when:

- The subject is in front of a window.
- The person you want to record is wearing white or shiny clothes and is placed against a bright background. The person's face is too dark to distinguish his/her features.
- The subject is outdoors and the background is overbright.
- The light sources are too bright.
- The subject is in front of a snowy background.



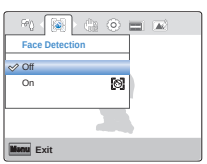
Face Detection

Your product detects a subject's face and automatically adjusts the brightness and image quality to the optimal settings. Record faces more vividly.

Press the **Mode** (/) button to set the video recording or the photo recording mode. ➥page 25

1 Press the **MENU** button → **Display** (|□|)/**Underwater** () button → "**Face Detection**".

2 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



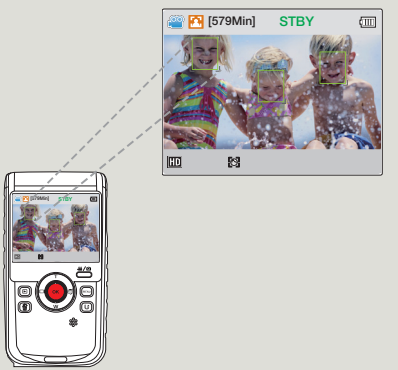
3 Press the **MENU** button to exit the menu.

Submenu items

- **Off**: Disables the function.
- **On** (): Detects faces automatically and sets the optimal recording values.

Example of the Face detection function

When the product sets the Face detection mode to On, the face detection frame appears when recording the faces as the figure below. The product can detect up to three faces.



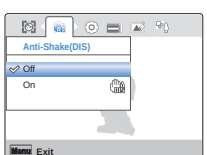
Anti-Shake (DIS)

Use the Anti-shake (DIS: Digital Image Stabiliser) function to compensate for unstable images caused by the slight shaking that can occur when you hold the product by hand.

Press the **Mode (/)** button to set the video recording or the photo recording mode. ➥page 25

1 Press the **MENU** button → **Display (|□|)**/**Underwater** () button → "**Anti-Shake(DIS)**".

2 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



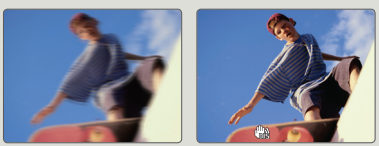
3 Press the **MENU** button to exit the menu.

Submenu items

- **Off**: Disables the function.
- **On** (): The Anti-Shake (DIS) function is enabled to compensate for shaking.

Use the Anti-Shake function in the following cases

- When recording while walking or in a moving car.
- When recording with the zoom function.
- When recording subjects of a small size.



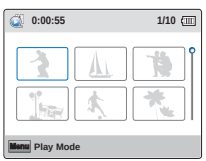
- Gross product shake may not be entirely corrected even if Anti-Shake (DIS) is On. Firmly hold the product with both hands.
- When this function is On, the actual movement of the subject and the movement displayed on the screen may be slightly different.
- When recording in dark lighting at high magnification while this function is On, after-images may stand out. In this case, we recommend using a tripod (not supplied) and turning Anti-Shake (DIS) to Off.

Play Mode

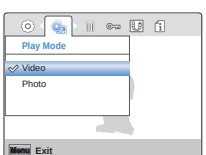
When you select Play Mode, your product lets you select whether to display videos or photos in the thumbnail index view. Select one of these playback modes before playback.

Press the **Playback** (▶) button to set playback mode. ➥page 39

1 Press the **MENU** button → "**Play Mode**".

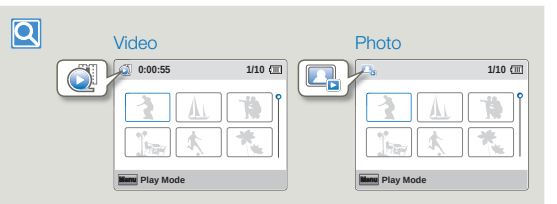


2 Select the desired submenu item with the **T/W** button → **OK (REC)** button.



Submenu items

- **Video**: Your product displays videos in the thumbnail index view.
- **Photo**: Your product displays photos in the thumbnail index view.



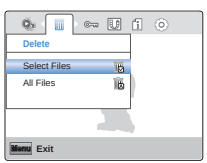
These playback mode settings are available in thumbnail view only.

Delete

You can erase your recordings one by one or all at once.

- Insert a memory card. ➥page 29
- Press the **Playback** (▶) button to set playback mode. ➥page 39
- Set "**Play Mode**" to "**Video**" or "**Photo**". ➥page 52

1 Press the **MENU** button → **Display** (|□|)/**Underwater** (🐠) button → "**Delete**".

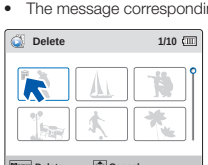


2 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.

- If you select "**Select Files**", you will see image thumbnails. Go to Step 3.
- If you select "**All Files**", you will see the message that corresponds to that option. Go to Step 4.

3 Press the **T**/**W**/**Display** (|□|)/**Underwater** (🐠) buttons, and then the **OK (REC)** button to select each file you want to delete. An indicator (🗑) appears on the files you selected. After you have selected all the files you want to delete, press the **MENU** button.

- The message corresponding to the selected option appears.



4 Select "**Yes**" with the **Display** (|□|)/**Underwater** (🐠)/**OK (REC)** button.

- If you selected "**All Files**", the product deletes all the files in storage media, except for those that are protected.
- If you selected "**Select Files**", the product deletes the files you selected.

Submenu items

- **Select Files**: Deletes selected videos or photos.
- **All Files**: Deletes all videos or photos.

Deleting files by using the Delete (🗑) button

Select the file to be deleted, and press the **Delete** (🗑) button.

- Deleted images cannot be recovered.
- Do not eject a memory card or power off the product while deleting videos recorded on the storage media. Doing so may damage the storage media or data.

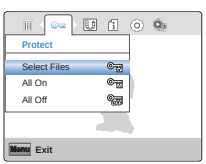
- You can also delete your recordings in the full and single image display mode.
- To protect important images from accidental erasure, activate the image protection function in advance. ➥page 54
- You cannot delete protected files. Cancel the protect function first. ➥page 54
- The delete function does not work if the battery charge is insufficient. Charge the battery enough so that it does not become exhausted during the delete operation.
- You can also format the storage media to delete all the images at once. Be aware that all files and data including protected files will be erased. ➥page 62

Protect

You can protect important saved videos or photos from accidental deletion. You can not delete protected images unless you release the protection or format the memory.

- Insert a memory card. ➥page 29
- Press the **Playback** (▶) button to set playback mode. ➥page 39
- Set "**Play Mode**" to "**Video**" or "**Photo**". ➥page 52

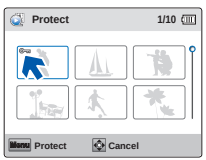
1 Press the **MENU** button → **Display** (|□|)/**Underwater** (🐠) button → "**Protect**".



2 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.

- If you select "**Select Files**", you will see image thumbnails. Go to Step 3.
- If you select "**All On**" or "**All Off**", you will see the message that corresponds to that option. Go to Step 4.

3 Press the **T**/**W**/**Display** (|□|)/**Underwater** (🐠) buttons, and then the **OK (REC)** button to select each file you want to protect. An indicator (🔑) appears on the files you selected. After you have selected all the files you want to protect, press the **MENU** button.



4 Select "**Yes**" with the **Display** (|□|)/**Underwater** (🐠)/**OK (REC)** button.

- If you selected "**All On**", the indicator (🔑) appears on all files.
- If you selected "**All Off**", the indicator (🔑) disappears from all protected files.
- If you selected "**Select Files**", the indicator (🔑) appears on the files you selected for protection.

Submenu items

- **Select Files**: Protects individual videos or photos from deletion.
- **All On**: Protects all videos or photos.
- **All Off**: Cancels the protection for all videos or photos.

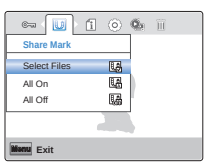
You can also protect you recordings in the full and single image display mode.

Share Mark

You can set the share mark on a video and directly upload the marked file to the YouTube site.

- Insert a memory card. ➥page 29
- Press the **Playback** (▶) button to set playback mode. ➥page 39
- Set "**Play Mode**" to "**Video**". ➥page 52

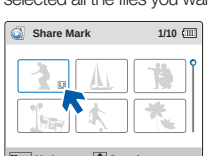
1 Press the **MENU** button → **Display** (|□|)/**Underwater** (🐟) button → "**Share Mark**".



2 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.

- If you select "**Select Files**", you will see image thumbnails. Go to Step 3.
- If you select "**All On**" or "**All Off**", you will see the message that corresponds to that option. Go to Step 4.

3 Press the **T**/**W**/**Display** (|□|)/**Underwater** (🐟) buttons, and then the **OK (REC)** button to select each file you want to share mark. An indicator (🔖) appears on the files you selected. After you have selected all the files you want to share mark, press the **MENU** button.



4 Select "**Yes**" with the **Display** (|□|)/**Underwater** (🐟)/**OK (REC)** button.

- If you select "**All On**", the indicator (🔖) appears on all files.
- If you select "**All Off**", the indicator (🔖) disappears from all share marked files.
- If you select "**Select Files**", the indicator (🔖) appears on the files you selected for share mark.

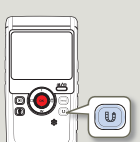
Submenu items

- **Select Files**: Share marked selected videos or photos.
- **All On**: Share marked all videos.
- **All Off**: Releases the share marked videos all at once.

- You can also set the share mark on your videos in the single image display mode.
- By using the Intelli-studio software embedded in the product, you can easily upload videos marked with share marks. ➥page 70
- When uploading a video file to a web site such as YouTube, the one-time upload maximum is 14 minutes 59 seconds.

Using the Share (🔖) button

You can set the share mark on a video by simply pressing the **Share** (🔖) button in the thumbnail view.



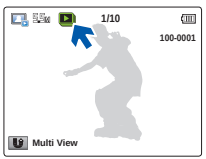
Slide Show

You can playback all the photos stored in the storage media automatically.

- Insert a memory card. ➥page 29
- Press the **Playback** (▶) button to set playback mode. ➥page 39
- Set "**Play Mode**" to "**Photo**". ➥page 52

1 Press the **MENU** button → **Display** (▭)/**Underwater** (🐠) button → "**Slide Show**" → **OK (REC)** button.

- The indicator (▶) is displayed and the slide show starts from the current photo.



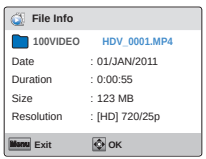
2 To stop the slide show, press the **T**, **W**, **OK (REC)**, or **MENU** button.

File Info

You can see the image information for all images.

- Insert a memory card. ➥page 29
- Press the **Playback** (▶) button to set playback mode. ➥page 39
- Set "**Play Mode**" to "**Video**" or "**Photo**". ➥page 52

1 Press the **MENU** button → **Display** (▭)/**Underwater** (🐠) button → "**File Info**" → **OK (REC)** button.



2 Select the desired video or photo with the **T**/**W**/**Display** (▭)/**Underwater** (🐠) button → **OK (REC)** button.

- The following information for the image you selected appears: Date, Duration (Video), Size, Resolution

3 To exit, press the **MENU** button.

SETTING MENU ITEMS

For operation details, go to the page number listed in the table under Page.

Items	Default value	Page
Storage Info	-	57
File No	Series	58
Date/Time Set	01/JAN/2011 00:00	58
Date/Time Display	Off	59
LCD Brightness	Normal	59
Auto LCD Off	On	60
Beep Sound	On	60
Shutter Sound	On	61
Auto Power Off	5 Min	61
PC Software	On	62
Format	-	62
Default Set	-	63
Language	English	63

Menu options and default values may be changed without prior notice.

Storage Info

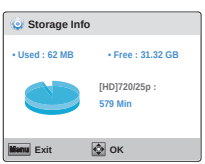
Storage Info displays the storage information. You can view the storage media, used memory space, and available memory space.

Insert a memory card. ➥page 29

1 Press the **MENU** button → **Display** (**|□|**)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**Storage Info**" → **OK (REC)** button.

- Used memory space, memory space available for use, and the available recordable time appears. Note that the storage info values depend on the currently selected video resolution.



3 Press the **MENU** button to exit the menu.

- The actual capacity may be less than the capacity displayed on the LCD screen as the product's system files occupy a part of the capacity.
- If there is no storage media inserted, Storage Media cannot be selected and will be dimmed on the menu.

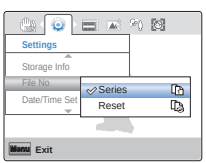
File No

The product assigns file numbers to recorded files in the order they were recorded.

1 Press the **MENU** button → **Display** (▮□▮)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**File No**" → **OK (REC)** button.

3 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



4 Press the **MENU** button to exit the menu.

Submenu items

- **Series** : Assigns file numbers in sequence even if you replace the memory card with another one, format the card, or delete all files. The file number is reset when a new folder is created.
- **Reset** : Resets the file number to 0001 when you format the memory card, delete all files, or insert a new memory card.

When you set "**File No**" to "**Series**", each file is assigned a different number to avoid duplicating file names. This is convenient when you want to manage your files on a PC.

Date/Time Set

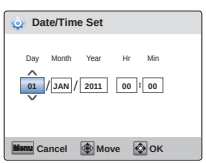
Set the current date and time so the product can record them correctly.

1 Press the **MENU** button → **Display** (▮□▮)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**Date/Time Set**" → **OK (REC)** button.

3 Set each date or time value by pressing the **T**/**W** buttons.

- Press the **Underwater** (🐠) button after you set each date or time value. The cursor moves to the next value.



4 After setting minutes, press the **OK (REC)** button.

- The product exits the date/time screen.

Date/Time Display

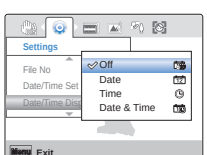
You can set whether or not the date and/or time are displayed on the LCD screen.

Before you use the "**Date/Time Display**" function, you must set the date and time. ➥page 24

1 Press the **MENU** button → **Display** (**I□I**)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**Date/Time Display**" → **OK (REC)** button.

3 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



4 Press the **MENU** button to exit the menu.

- The date/time is displayed on the LCD screen according to the option you selected.

Submenu items

- **Off** : Current date/time information is not displayed.
- **Date** : Displays the current date.
- **Time** : Displays the current time.
- **Date & Time** : Displays the current date and time.

The date/time will read "**01/JAN/2011 00:00**" in the following case:
- When the internal battery is depleted.

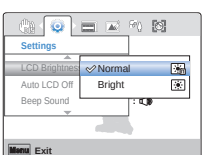
LCD Brightness

You can adjust the brightness of the LCD screen to compensate for ambient lighting conditions.

1 Press the **MENU** button → **Display** (**I□I**)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**LCD Brightness**" → **OK (REC)** button.

3 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



4 Press the **MENU** button to exit the menu.

Submenu items

- **Normal** : Standard brightness.
- **Bright** : Brightens the LCD screen.

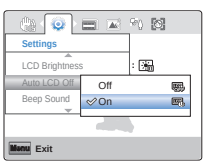
Auto LCD Off

To reduce power consumption, the product automatically dims the brightness of the LCD screen if the product is idle for a period of time.

1 Press the **MENU** button → **Display** (▮▭▮)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**Auto LCD Off**" → **OK (REC)** button.

3 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



4 Press the **MENU** button to exit the menu.

Submenu items

- **Off** : Disables the function.
- **On** : When there is no operation for a period of time in the STBY mode or during recording, the product reduces power consumption by automatically dimming the LCD screen.

- If the "**Auto LCD Off**" function is enabled and the LCD screen dims, you can press any button on the product to return the LCD screen's brightness to normal.
- Auto LCD Off is disabled in the following case:
  - If you have connected the built-in USB plug of the product to a PC.

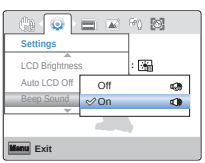
Beep Sound

You can set the beep sound on or off. If you hear a beep sound when operating the menu settings, the setting is turned on.

1 Press the **MENU** button → **Display** (▮▭▮)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**Beep Sound**" → **OK (REC)** button.

3 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



4 Press the **MENU** button to exit the menu.

Submenu items

- **Off** : The beep sound is off.
- **On** : A beep will sound every time you press a button.

The Beep sound function is canceled in the following cases:
- During recording and playing back
- When the product has a cable connection. (mini HDMI cable)

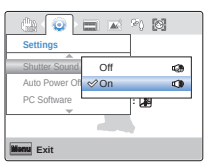
Shutter Sound

You can turn the shutter sound on or off.

1 Press the **MENU** button → **Display** (▭)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**Shutter Sound**" → **OK (REC)** button.

3 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



4 Press the **MENU** button to exit the menu.

Submenu items

- **Off** : The shutter sound is off.
- **On** : The shutter will sound each time you press the **OK (REC)** button in the photo recording mode.

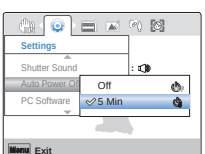
Auto Power Off

To save battery power, you can set the "**Auto Power Off**" function to 5 Min. This setting turns off the product if there is no operation for five minutes.

1 Press the **MENU** button → **Display** (▭)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**Auto Power Off**" → **OK (REC)** button.

3 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



4 Press the **MENU** button to exit the menu.

Submenu items

- **Off** : The product does not turn off automatically.
- **5 Min** : The product automatically turns off if there is no operation for 5 minutes in STBY mode or in thumbnail index view.

- Auto Power Off is disabled in the following cases:
  - If you have connected the built-in USB plug of the product to a PC.
  - During recording, playing back (pause excluded), or a slideshow.
- Press the **Power** (⏻) button to restart the product.

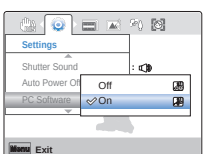
PC Software

Your product contains built-in PC software (Intelli-studio). If you set PC Software on, you can use this PC software to download and edit videos and photos by connecting the built-in USB plug of the product to your PC.

1 Press the **MENU** button → **Display** (▭)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**PC Software**" → **OK (REC)** button.

3 Select the desired submenu item with the **T**/**W** button → **OK (REC)** button.



4 Press the **MENU** button to exit the menu.

Submenu items

- **Off** : Disables the function.
- **On** : You can use the PC software by connecting the built-in USB plug of the product to your PC.

The PC Software is compatible with Windows operating systems only.

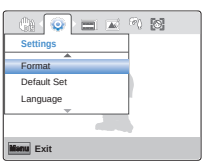
Format

The format function deletes all files (including protected files) and options on the storage media. You can also use this function if you want to correct problems with the storage media.

Insert a memory card. ➥page 29

1 Press the **MENU** button → **Display** (▭)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**Format**" → **OK (REC)** button.



3 Select "**Yes**" with the **Display** (▭)/**Underwater** (🐠) button → **OK (REC)** button.

- Do not remove the storage media or perform any other operation (such as turning off the power) during formatting. Also, be sure the battery is sufficiently charged. The storage media can be corrupted if the battery becomes exhausted during formatting.
- If the storage media becomes corrupted, format it again.

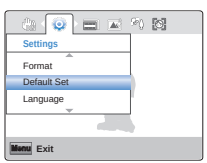
- **Do not format the storage media on a PC or other device.** Make sure to format the storage media on this product.
- If there is no storage media inserted, Format can not be selected and will be dimmed on the menu.
- You must format storage media you used in other devices or newly purchased memory cards with this product before using them. This enables stable speeds and operation when accessing the storage media.
- Be aware that formatting erases all files and data including protected files.

Default Set

You can initialise your product settings to the factory defaults (initial settings at the factory).

1 Press the **MENU** button → **Display** (▮□▮)/**Underwater** (🐠) button → "**Settings**".

2 Press the **T**/**W** button → "**Default Set**" → **OK (REC)** button.



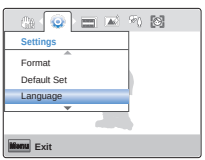
3 Select "**Yes**" with the **Display** (▮□▮)/**Underwater** (🐠) button → **OK (REC)** button.

- Select "**No**" to cancel the Default Set.
- All setting values are initialised to the factory default.

- After resetting the product, reset the "**Date/Time Set**". ➥page 24
- Do not turn off the power while initialising the settings.
- The "**Default Set**" function does not affect the files recorded on the storage media.

Language

You can select a language in which to display the menu and messages. ➥page 28



Supported languages

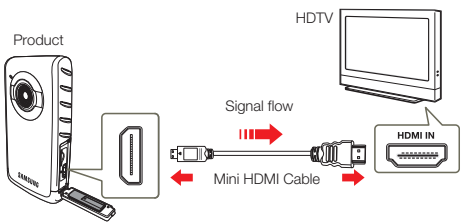
English	한국어	Français	Deutsch	Italiano
Español	Português	Русский	中文	ایرانی

Connecting to a TV

CONNECTING TO A HIGH DEFINITION TV WITH HDMI

You can view High Definition (HD) quality videos recorded in HD resolution on an HDTV using an HDMI connection. This product supports HDMI output to deliver high-definition video transfer.

- Check if there is an HDMI input jack on your TV.
- Insert a memory card. ➥page 29



Connecting the product to a TV's HDMI input

1. Turn on the product.
   - If you do not turn on the product first, the product may fail to recognise the connected TV.
2. Connect the product to the TV with a mini HDMI cable.
   - The mini-HDMI cable is sold separately.
3. Set the TV's input or source selector to the HDMI input you've attached the product to.
   - Refer to the TV's instruction manual to see how to select the TV's input or source.
4. When you connect the product to a TV, the LCD screen of the product turns off and the images recorded by the product appear in thumbnail view on the TV.
   - For videos and photos playback, see pages 40, 43.

VIEWING ON A TV SCREEN

Image appearance depends on the TV screen aspect ratio

Recording ratio	Appearance on Wide Screen (16:9) TV	Appearance on 4:3 TV
Images recorded in a 16:9 ratio		
Images recorded in a 4:3 ratio		

- When you connect the product to a TV with a mini HDMI cable, the product switches to playback mode and when you disconnect the product to the TV, the product switches to thumbnail view.
- You can use only a C to A type mini HDMI cable with this product.
- The HDMI jack on the product is for output only.
- Use only HDMI 1.3 cable when connecting to the HDMI jack of this product. If you use another type of HDMI cable, the screen display may not work.
- When the product is connected to a TV, you cannot control the volume of the TV from the product.
- Adjust the volume to a moderate level. If the volume is too high, the video may include noise.

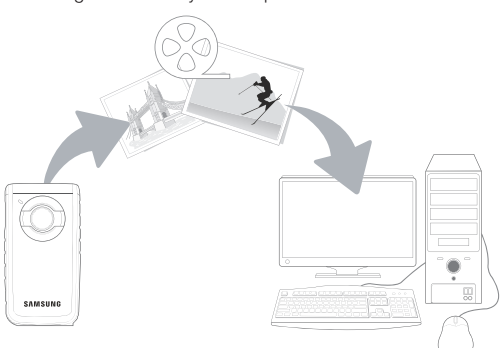
Using with a Windows computer

WHAT YOU CAN DO WITH A WINDOWS COMPUTER

You can perform the following functions by connecting your product to your Windows computer with the built-in USB plug, and then using the Intelli-studio software built into your product.

Main function

- Intelli-studio editing software's main functions.
  - Playing back recorded videos or photos.
  - Editing recorded videos or photos.
  - Uploading the recorded videos and photos to YouTube, Flickr, Facebook, etc.
- You can transfer or copy the files (videos and photos) saved on the storage media into your computer.



System requirements

The following requirements must be satisfied to use the internal editing software (Intelli-studio):

Items	Requirement
OS	Microsoft Windows XP SP2, Windows Vista, or Windows 7
CPU	Intel® Core 2 Duo® 1.66 GHz or higher is recommended AMD Athlon™ X2 Dual-Core 2.2 GHz or higher is recommended (Notebook: Intel Core2 Duo 2.2GHz or AMD Athlon X2 Dual-Core 2.6GHz or higher is recommended)
RAM	1GB or higher is recommended
Video Card	NVIDIA GeForce 8500 or higher, ATI Radeon HD 2600 series or higher
Display	1024 x 768, 16-bit colour or higher (1280 x 1024, 32-bit colour recommended)
USB	USB 2.0
Direct X	DirectX 9.0c or higher
Memory Card	A micro SDHC card of Class 6 or above

- System requirements mentioned above are recommendations. Even on a system that satisfies the requirements, Intelli-studio may not operate optimally.
- On a slower than recommended computer, video playback may skip frames or operate erratically.
- If the version of DirectX on your computer is lower than 9.0c, install DirectX 9.0c or higher.
- We recommend transferring the recorded videos to a PC before playing back or editing the video data.
- To run Intelli-studio, a laptop computer requires better and faster components than a desktop PC.
- Intelli-studio is not Mac OS compatible.

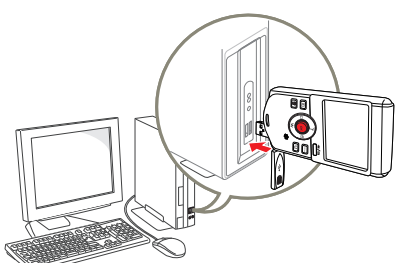
USING THE Intelli-studio PROGRAMME

Intelli-studio is a built-in programme that allows you to play back and edit files. You can also upload files to web sites, such as YouTube or Flickr.

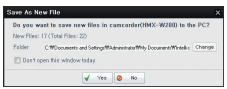
Step 1. Connecting the USB plug

1 Set "**PC Software**" to "**On**". ➥page 62
- This is the default setting.

2 Connect the built-in USB plug of the product to the USB port of your PC.
- A new file saving window appears along with the Intelli-studio main window. If your product has no new files, the pop-up window for saving new files will not appear.
- Depending on your version of Windows, the Windows removable disk window may also appear.

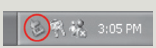


3 Click "**Yes**" in the new file saving window. The uploading procedure starts. Click "**Yes**" to confirm.
- If you do not want to save any new files, select "**No**".



To disconnect the USB plug

To disconnect the USB plug after completing the file transfer, you must follow these steps:



1. Click the "**Safely Remove Hardware**" icon on the taskbar.
2. Select "**USB Mass Storage Device**", and then click "**Stop**".
3. If the "**Stop a Hardware device**" window appears, click "**OK**".
4. Disconnect the product's built-in USB plug from the PC.

- Make sure you insert the USB plug into the USB port with the plug facing in the correct direction.
- When the built-in USB plug is connected, turning the product on or off may cause the PC to malfunction.
- If you disconnect the product's built-in USB plug from the PC while transferring files, the data transmission will stop and the data may be damaged.
- If you connect the built-in USB plug to a PC via a USB HUB or simultaneously connect the built-in USB plug along with other USB devices, the product may not work properly. If this occurs, remove all USB devices from the PC, and then reconnect the product.
- Intelli-studio may not automatically run. If this occurs, access My Computer or Windows Explorer, open the drive that corresponds to your product, find Intelli-studio, and then run IStudio.exe.
- The product turns off if you remove its USB plug from the USB port of the computer.

Step 2. About the Intelli-studio main window

When the Intelli-studio starts up, video and photo thumbnails appear in the main window.

- If you install Intelli-studio on your PC, the programme will launch more quickly. To install the programme, select "**Tool**" → "**Install Intelli-studio on PC**" on the Intelli-studio screen.
- If you install the full version of Intelli-studio software, you can use various functions. Start the installation by clicking on "**Web Support**" → "**Update Intelli-studio**" → "**Start Update**".
- You can update the firmware of this product by selecting "**Web Support**" → "**Upgrade firmware for the connected device**" from the programme toolbar.
- The product's built-in Intelli-studio software is intended for home use. It is not for precision or industrial productions. For these applications, we recommend an editing application designed for professional use.

For details, select "Help" → "Help" on the Intelli-studio screen.

No.	Description
1	Menu items.
2	Display files in the selected folder.
3	Switch to Photo edit mode.
4	Switch to Video edit mode.
5	Switch to Share mode.
6	Enlarge or reduce the thumbnails in the list.
7	Select a file type.
8	View videos and photos of the selected folder on your computer.
9	Show or hide videos and photos of the connected device.
10	View videos and photos of the selected folder on the device.
11	View files as thumbnails or on a map.
12	Browse folders in the connected device.
13	Browse folders stored on your computer.
14	Move to the previous or next folder.
15	Print files, view files on a map, store files in Contents Manager, or register faces.

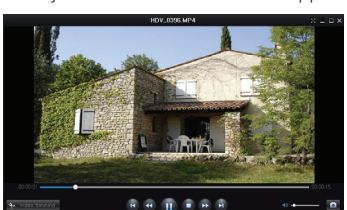
Step 3. Playing back videos or photos

You can play back the recordings conveniently using the Intelli-studio application.

1 In Intelli-studio, click the desired folder to display your recordings.
- Video or photo thumbnails appear on the screen, depending on the folder you selected.

2 Choose the video or photo that you want to play back.
- You can view file information by moving the mouse over the file.
- If you click a video thumbnail once, the video plays back inside the thumbnail frame, allowing you to search for a desired scene with ease.

3 After you select the video or photo you want, double-click to play back.
- Playback starts and the controls appear.



Intelli-studio supports the following file formats:
- Video formats: MP4 (Video: H.264, Audio: AAC), WMV (WMV 7/8/9)
- Photo formats: JPG, GIF, BMP, PNG, TIFF

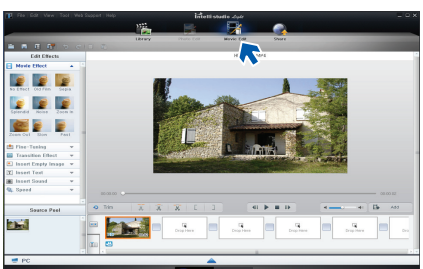
Step 4. Editing videos or photos

You can edit the videos or photos in various ways with various functions. (Change Size, Fine-Tuning, Image Effect, Insert Frame, etc.) Before editing a video or photo in Intelli-studio, make a backup copy of the video or photo file and store it on your computer for safe-keeping using My Computer or Windows Explorer.

1 Choose the video or photo you want to edit.

2 Click "**Movie Edit** ( )" or "**Photo Edit** ()" according to the file you selected.
- The selected file appears in the editing window.

3 Edit the video or photo with various edit functions.

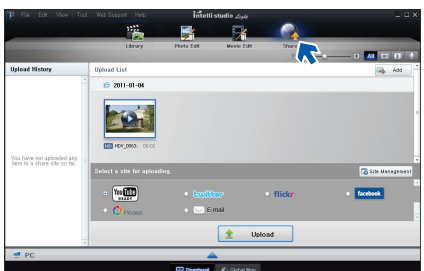


Step 5. Sharing the videos/photos online

Share your contents with the world by uploading photos and videos directly to a web site with one click.

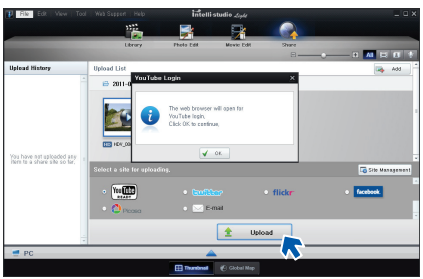
1 Choose the videos or photos you want to share.

2 Click "**Share** ( )" on the Intelli-studio browser.
- The selected files appear in the sharing window.



3 Click the web site you would like to upload files to.
- You can choose "YouTube", "twitter", "Flickr", "Facebook", "Picasa", "Email", or another web site you want to use for your on-line photo or video management.

4 Click "**Upload**" to start uploading.
- A pop-up window appears to open the web browser of the selected site or a pop-up window appears asking for your ID and password.



5 Enter your ID and the password to access.
- Access to the web site contents can be limited depending on your web access environment.

The allowed total recording time for individual videos and the capacity available for uploading videos can differ, depending on each web site's policy.

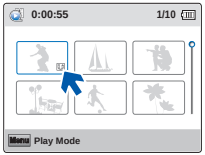
Upload your videos directly to YouTube!

The One-Press Share (⋔) button lets you directly upload and share your videos on YouTube. Just press the Share (⋔) button while your product is connected to a Windows computer using the built-in USB plug.

STEP 1

On the product, select a video you want to upload in the video thumbnail index view using the Share (⋔) button.
➥page 55 Repeat for each video you want to upload.

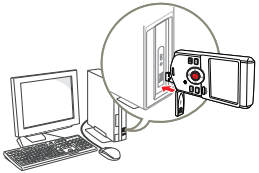
- The Share mark (⋔) appears on each video.



STEP 2

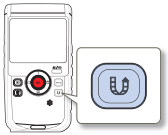
Connect the built-in USB plug of the product to the USB port of the PC.

- If you have set "**PC Software: On**", Intelli-studio runs automatically on a Windows computer after you've connected the product.



STEP 3

Press the Share (⋔) button while your product is connected to a Windows computer.



- A pop-up sharing window displaying the videos with Share marks appears on the screen.
- Click "**Yes**" on the PC screen to begin uploading your videos to YouTube.
- If you want to upload directly without showing a pop-up sharing window, check "Intelli-studio does not pop a list of share marked files from the connected device".

- You can use the Share (⋔) button only while Intelli-studio is running.
- As part of the uploading process, the videos you marked are converted into a format playable by YouTube before actually uploading. Time spent uploading may vary depending on such conditions as file size, computer performance, and network speed.
- There is no guarantee the uploading operation will work in all environments. YouTube server-side changes in the future may disable this function.
- For more information on YouTube, visit the YouTube website: **http://www.youtube.com/**
- This product's YouTube uploading functionality is provided under the licence from YouTube LLC. The presence of the YouTube uploading functionality in this product is not an endorsement of or recommendation for the product by YouTube LLC.
- If you do not have an account on a specified website, you must register first before you can upload.
- According to YouTube's policy, direct video uploading may not be available in your nation / region.

USING AS A REMOVABLE STORAGE DEVICE

You can transfer or copy recorded data from the product to a Windows computer by connecting the product's built-in USB plug to the computer's USB port.

Viewing the contents of storage media

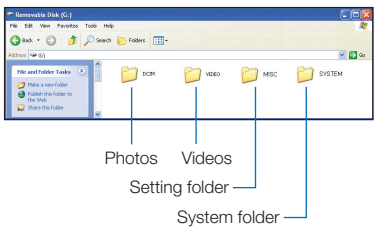
1 Set "**PC Software**" to "**Off**". ➥page 62

2 Insert a memory card. ➥page 29

3 Connect the built-in USB plug of the product to the USB port of the PC. ➥page 66
- The "Removable Disk" or "Samsung" window appears on the PC's screen after a moment.
- Select "Open folders to view files using Windows Explorer", and then click "OK".

Removable Disk (G:)
Windows can perform the same action each time you insert a disk or connect a device with this kind of file:
Pictures
What do you want Windows to do?
using Photo Printing Wizard
View a slideshow of the images
using Windows Picture and Fax Viewer
Copy pictures to a folder on my computer
using Microsoft Scanner and Camera Wizard
Browse picture files
using MediaShow
Open folder to view files
using Windows Explorer
Always do the selected action.
OK
Cancel

4 The folders in the storage media appear.
- Different file types are stored in different folders.

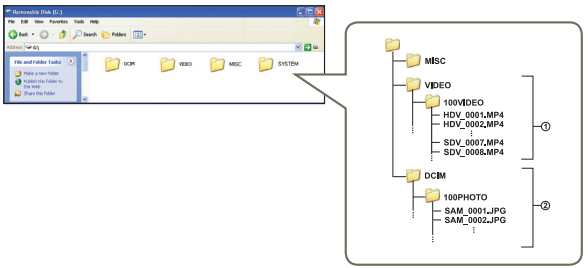


5 Select the desired folder or files to copy, then drag and drop them into the destination folder.
- The folder or files are copied from the storage media to the PC.

- If the "Removable Disk" window does not appear, confirm the connection (➥page 66) or perform steps 1 to 3 again. If the removable disk does not appear automatically, open the removable disk folder in My Computer.
- If the connected product's disk drive does not open or the context menu that appears when right clicking your mouse (open or browse) appears broken, your computer may be infected by an Autorun virus. Update your anti-virus software to its latest version and scan your disk drives.
- The product turns off if you remove its USB plug from the USB port of the computer.

Structure of folders and files on the storage media

- The folder and file structure for storage media are below.
- File naming follows DCF (Design rule for Camera File System) rules.



Video file (H.264) ①

- HD-quality videos have an HDV_####.MP4 name format.
- The video recorded by using the smart filter function has the SDV_###.MP4 name format.
- The file number used in the file name automatically increases when you create a new video file.
- Up to 9,999 files can be stored in one folder. The product creates a new folder when the number of files in a folder exceeds 9,999.
- The folder names are given in the following order: 100VIDEO, 101VIDEO, etc. The maximum number of folders is 999.
- The product can create a maximum of 9,999 files in a storage media.

Photo file ②

- As with video files, the file number used in the file name automatically increases when you create a new photo file.
- Photos have a SAM_####.JPG name format.
- The folder names are given in the following order: 100PHOTO, 101PHOTO, etc.

File format

Video files

- Video files are compressed in H.264 format. The file extension is ".MP4".
- Refer to page 47 for the video resolution.

Photo files

- Photo images are compressed in JPEG (Joint Photographic Experts Group) format. The file extension is ".JPG".
- Refer to page 47 for the photo resolution.

Do not modify the name of a video file recorded by the product. For proper playback, the product requires that files have their original folder and file names.

Troubleshooting

Before contacting a Samsung authorised service centre, review the recommendations in this troubleshooting guide. They may save you the time and expense of an unnecessary call.

WARNING INDICATORS AND MESSAGES

Problems may occur because of the following reasons. Check the information and take corrective action.

Battery

Message	Icon	Meaning	Action
Low Battery	-	The battery is almost discharged.	• Charge the battery by attaching the product to a PC using the built-in USB plug.

Storage media

Message	Icon	Meaning	Action
Insert Card		There is no memory card inserted in the memory card slot.	• Insert a memory card.
Card Full		There is not enough space to record on the memory card.	• Delete unnecessary files from the memory card. • Back-up files to a PC or another storage media, and then delete unneeded files. • Replace the memory card with another card that has enough free space.
Card Error		The memory card has a problem and the product can not recognise it.	• Replace the memory card with another card.
Not Formatted		The memory card was not formatted by this product.	• Format the memory card using this product.

Storage media

Message	Icon	Meaning	Action
Not Supported Format		The memory card may have been formatted by another device and may still have existing images on it.	• This product cannot play back files because it does not support your memory card formatting. • Format the card using the product or replace the card with a card formatted correctly.
Not Supported Card		The memory card is not supported in this product.	• Replace the memory card with a recommended card.
Low Speed Card. Please record at a lower resolution.	-	The memory card is not fast enough to record at this resolution.	• Record video at a lower resolution. • Replace memory card with a faster card.

Recording

Message	Icon	Meaning	Action
Write Error	-	A problem has occurred while the product was writing data to storage media.	• Turn the product's power off and on for data recovery. • If a file is not recovered, use the product to format the storage media after backing up important files to a PC or another storage media.
The number of video files is full. Cannot record video.	-	The number of video files has reached 9,999. No more can be stored on the card.	• Delete unnecessary files from the storage media. • Back up files to your PC or another storage media and delete unneeded files. • Change to another card which has enough free space. • Set "**File No**" to "**Reset**". • Format the storage media.

Recording

Message	Icon	Meaning	Action
The number of photo files is full. Cannot take a photo.	-	The number of photo files has reached 9,999. No more can be stored on the card.	• Delete unnecessary files on the storage media. • Back up files to your PC or another storage media and delete unneeded files. • Change to another card which has enough free space. • Set "**File No**" to "**Reset**". • Format the storage media.
File number is full. Cannot record video.	-	The folder and file number have reached their maximum number and you can not record.	• Set "**File No**" to "**Reset**" and format the storage media. Remember to back up important files before formatting.
File number is full. Cannot take a photo.	-	The folder and file number have reached their maximum number and you can not record.	• Set "**File No**" to "**Reset**" and format the storage media. Remember to back up important files before formatting.

Playback

Message	Icon	Meaning	Action
Read Error	-	A problem has occurred while the product was reading data from the storage media.	• Use the product to format the storage media after backing up important files to a PC or another storage device.

Underwater handling

Message	Icon	Meaning	Action
Ensure that the USB and card covers are closed before shooting under water.	-	The product has switched to the Underwater mode.	• Make sure to close and lock the memory card/ HDMI jack cover and USB plug cover when you use the product under water. ➥page ii • To set the Underwater mode to Off, press the **Underwater** (🐠) button.

SYMPTOMS AND SOLUTIONS

If these instructions do not solve your problem, contact your nearest Samsung authorised service centre.

Power

Symptom	Explanation/Solution
The product does not turn on.	• The internal battery may be discharged. Charge the battery.
The power turns off automatically.	• Is "**Auto Power Off**" set to "**5 Min**"? If no button is pressed for about 5 minutes, the product turns off automatically ("**Auto Power Off**"). To disable this option, change the setting of "**Auto Power Off**" to "**Off**". ➥page 61 • The battery is almost exhausted. Charge the battery.
Power cannot be turned off.	• Unplug the built-in USB plug, and connect the power supply to the product again before turning it on. • Press the **Reset** button. ➥page 16
The battery discharges quickly.	• The temperature is too low. • The battery is not fully charged. Charge the battery again. • The battery has reached the end of its lifespan and cannot be recharged. Contact your local Samsung dealer.

Display

Symptom	Explanation/Solution
The TV screen or LCD display has distorted images or has stripes at the top/bottom or on the left/right.	• This can occur when recording or viewing a 16:9 ratio image on a 4:3 ratio TV, or vice versa. For more details, see the display specification. ➥page 64
Unknown indicator appears on the screen.	• A warning indicator or message appears on the screen. ➥pages 73~75
An afterimage remains on the LCD screen.	• This occurs if you disconnect the built-in USB plug before turning the power off.
The image on the LCD screen looks dark.	• Ambient light is too bright. Adjust the brightness of the LCD. ➥page 59

Recording

Symptom	Explanation/Solution
Pressing the **OK (REC)** button does not start recording.	• Press the **Mode** (🎥/📷) button to set the video recording or the photo recording mode. ➥page 25 • There is not enough free space to record on the storage media. • The internal temperature of your product is unusually high. Turn off your product and leave it for a while in a cool place. • Your product is damp and moist inside (condensation). Turn off your product and leave it for about 1 hour in a cool place.
The actual recording time is less than the estimated recording time.	• The estimated recording time may vary depending on content and features used. • When you record an object that moves quickly, the actual recording time may be shortened.
The recording stops automatically.	• There is no more free space for recording on the storage media. Back up important files on your PC and format the storage media or delete unnecessary files. • If you make recordings or delete files frequently, the performance of the storage media deteriorates. If this occurs, format the storage media again. • If you use a memory card with a low write speed, the product automatically stops recording videos and displays a message on the LCD screen.
When recording a subject illuminated by bright light, a vertical line appears.	• This is not a malfunction.
During recording, the date/time does not display.	• "**Date/Time Display**" is set to "**Off**". Set the "**Date/Time Display**" to On. ➥page 59
You cannot record a photo image.	• Set your product to the photo recording mode. ➥page 25 • The storage media is full. Use a new memory card or format the storage media. ➥page 62 Or remove unnecessary images. ➥page 53
You don't hear the shutter sound when you record a photo image.	• Set "**Shutter Sound**" to "**On**". ➥page 61 • During dual recording (video and photo), the Shutter Sound is off. • When the mini HDMI cable is connected to the product, the Shutter Sound is not available.

Recording

Symptom	Explanation/Solution
You don't hear the beep sound.	• Set "**Beep Sound**" to "**On**". ➥page 60 • Beep sound is temporally off while recording videos. • When the mini HDMI cable is connected to the product, the Beep Sound is not available.
There is a time difference between the point where you press the **OK (REC)** button and the point where the recorded video starts/stops.	• On your product, there may be a slight time delay between the point where you press the **OK (REC)** button and the actual point where the recorded video starts/stops. This is not an error.
Horizontal stripes appear on the images.	• This occurs when recording images under a fluorescent lamp, sodium lamp, or mercury lamp. This is not a malfunction.

Storage Media

Symptom	Explanation/Solution
Memory card functions do not operate.	• Insert a memory card into your product properly. ➥page 29 • If you use a memory card formatted on a computer, format it again directly on your product. ➥page 62
Image cannot be deleted.	• You cannot delete a protected image. Release protection of the image using the Protect function. ➥page 54
You cannot format the memory card.	• The memory card is not supported on your product or the card has some problems.
The data file name is not indicated correctly.	• The file may be corrupted. • The file format is not supported by your product. • The file name is displayed correctly only if the directory structure complies with the international standard.

Adjusting the image during recording

Symptom	Explanation/Solution
The image is out of focus.	• This product has no user-adjustable focus control function. • The minimum focal length between the product and the subject is about 7.9~9.8 inches (20~25 cm). Record the subject at more than the minimum focal length.

Playback on your product

Symptom	Explanation/Solution
Playback (playback/pause) function does not work.	• Image files recorded using another device may not play back on your product. • Check memory card compatibility. ➥page 30
The skip or search function does not work properly.	• If the temperature inside the product is too high, it cannot function properly. Turn the product off, wait for a few minutes, and turn it on again.

Playback on other devices (TV)

Symptom	Explanation/Solution
You cannot view the image on or hear the sound from the connected device.	• Make sure that the connection cable is connected to the proper jack.
The image appears distorted on your TV or PC.	• The display mode of the recorded video does not match that of playback display device. • A video recorded in 16:9 wide mode should be played back on a TV or PC that supports 16:9 screen mode.

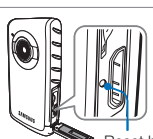
Connecting to a computer

Symptom	Explanation/Solution
Your computer does not recognise your product.	• Disconnect the built-in USB plug of the product from the PC, restart the PC, and then reconnect product correctly.
Cannot play back a video file properly on a PC.	• You need a video codec to play back the file recorded on your product. Install or run the built-in editing software (Intellistudio). • Check whether the built-in USB plug of the product is connected in the proper direction. • Disconnect the built-in USB plug of the product from the PC, restart the computer, and then reconnect the product properly. • Your computer may not have the necessary performance specifications to play back a video file. Check the recommended computer specifications.
Intelli-studio does not function properly.	• Exit the Intelli-studio application, and restart the Windows computer. • Intelli-studio is not Mac OS compliant. • Set "**PC Software**" to "**On**" in the Settings menu. • The Intelli-studio programme may not run automatically. If this occurs, access My Computer or Windows Explorer, open the drive that corresponds to your product, find Intelli-studio, and then run IStudio.exe.
Your computer is not playing back videos, images, or sound located on your product properly.	• Video playback or sound may stop temporarily depending on your computer. The video or sound copied to your computer is not affected. • If your product is connected to a computer that does not support Hi-speed USB (USB2.0), the image or sound may not play back correctly. Images, video, and sound copied from the product to your computer are not affected.
The playback screen is paused or distorted.	• Check the system requirements to play back a video. • Shut down all other applications currently running on the computer. • If you play back a video on your product when it is connected to a computer, the video may not play back smoothly on the computer, depending on the transfer speed. Copy the file to your PC, and then play it back.

Underwater handling

Symptom	Explanation/Solution
The subject on the LCD screen is not clear under water.	• Set the underwater mode to On. ➥page 37 • Check if there are stains or foreign substances on the lens. ➥page ii
Water gets into the product.	• Turn the power off and then contact Samsung's Customer Care Centre.
The buttons on the product do not move smoothly.	• Check if there are foreign substances on the buttons. • After checking the covers (built-in USB plug, memory card/HDMI jack) of the product are completely closed, remove other foreign substances in clean water. Do not apply excessive force to the buttons when removing other foreign substances.

Overall operations

Symptom	Explanation/Solution
The date and time are incorrect.	• Has the product been left unused for a long period of time? The internal battery may be discharged. ➥page 23
The product is not turned off or the buttons do not operate normally.	• When you press the **Reset** button, the product turns the power off. The Reset function does not affect the recorded images and user settings.  Reset button

Menu items that cannot be used at the same time

Symptom	Explanation/Solution
Menu items are greyed out.	• You cannot select greyed items in the current recording/playback mode. • If you have not inserted a memory card into the product, all functions that require a memory card ("**Storage Info**", "**Format**", etc.) are dimmed in the menu and you will not be able to select them. • The following functions cannot be used when the product is in the Smart filter mode: - Digital zoom, "**Video Resolution**", "**Anti-Shake(DIS)**", "**Face Detection**"

MAINTENANCE

The suggestions below will help you fulfill any warranty obligations and allow you to enjoy this product for many years.

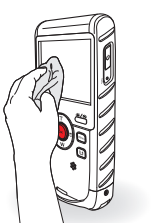
Cautions when storing

- For safekeeping, turn off the product.
  - Remove the memory card.
  - Fully charge the internal battery before storing. ➥page 21

Cleaning the product

Before cleaning, turn off the product.

- **To clean the exterior**
  - Wipe gently with a soft dry cloth. Do not apply excessive force when cleaning. Gently rub the surface.
  - Do not use benzene or thinner to clean the product. The exterior coating could peel off or the case could deteriorate.
- **To clean the LCD screen**
  Wipe very gently with a soft dry cloth. Be careful not to damage the screen.



- **To clean the lens**
  Use a blower brush to remove dust, and then wipe the lens gently with a soft cloth.
  If necessary, wipe gently with lens paper or tissue.
  - Mould may form if the lens is left dirty.
  - If the lens looks dim, turn off the product and leave it off for about 1 hour.

LCD screen

- To prolong its service life, do not rub the LCD screen with a coarse cloth.
- Be aware of the following LCD screen phenomena. They are not malfunctions.
  - When you use the product, the surface around the LCD screen may heat up.
  - If you leave the power on for a long time, the surface around the LCD screen becomes hot.
  - When using the product in cold conditions, an afterimage may appear on the LCD screen.
- An LCD screen is manufactured using advanced technology which creates screens with pixel failure rates of less than 0.01%. However, a black or bright spot (red, blue, white) may appear in the centre of the LCD screen and up to two spots may appear outside the centre. These spots, which are normally incurred during the manufacturing process, do not affect the recorded images.

When there is dew condensation, put the product aside for a while before using

- What is dew condensation?

  Dew condensation happens when a product is moved to a location where there is a significant temperature difference from the previous location. The dew condenses on the external or internal parts of the product, and on the reflection lens. If there is dew on or in your product, it may cause the product to malfunction or damage the product when you turn the power on.
- Exactly when does dew condensation occur?

  When you move the camera to a location with a higher temperature than the previous location, or when you move it to a hot area suddenly. Examples:
  - You record outside in cold weather during the winter and then move the camera in indoors.
  - You record outside in hot weather after being indoors or inside a car where the A/C was running.
- What can I do?
  - Turn the power off, and leave the product in a dry area for 1~2 hours before using it.

Use the product only after dew condensation has completely disappeared.

USING YOUR PRODUCT ABROAD

- Each country or region has its own electric and colour systems.
- Before using your product abroad, check the following items.

On TV colour systems

Your product is an PAL based product. If you want to view your recordings on a TV or copy them to an external device, it must be an PAL based TV or external device and have the appropriate Audio/Video jacks. Otherwise, you may need to use a separate video format transcoder (For example, an PAL to NTSC format converter).

The format transcoder is not provided by Samsung.

PAL-compatible countries/regions

Australia, Austria, Belgium, Bulgaria, China, CIS, Czech Republic, Denmark, Egypt, Finland, France, Germany, Greece, Great Britain, Holland, Hong Kong, Hungary, India, Iran, Iraq, Kuwait, Libya, Malaysia, Mauritius, Norway, Romania, Saudi Arabia, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Syria, Thailand, Tunisia, etc.

NTSC-compatible countries/regions

Bahamas, Canada, Central America, Japan, Korea, Mexico, Philippines, Taiwan, United States of America, etc.

You can make recordings with your product and view pictures on the LCD screen anywhere in the world.

GLOSSARY

AF (Auto Focus)

A system that automatically focuses the product lens on the subject. Your product uses the contrast to focus automatically.

Aperture

The aperture controls the amount of light that reaches the product's sensor.

Composition

Composition in photography means arranging objects in a photo. Usually, abiding by the rule of thirds leads to a good composition.

Complementary Metal-Oxide-Semiconductor (CMOS)

CMOS is an image sensor producing images approaching the quality of CCD (charge coupled device) sensors. It consumes less power, meaning a longer battery life on your product.

Digital zoom

A feature that artificially increases the amount of zoom available with zoom lens (Optical zoom). When using the Digital zoom, the image quality will deteriorate as the magnification increases.

Effective Pixel Count

Unlike the total pixel count, this is the actual number of pixels used to capture an image.

Exposure

The amount of light allowed to reach the product's sensor. Exposure is controlled by a combination of the shutter speed, the aperture value, and ISO sensitivity.

Focal length

The distance from the middle of the lens to its focal point (in millimeters). Longer focal lengths result in narrower angles of view and the subject is magnified. Shorter focal lengths result in wider angles of view.

F. No (F-Number)

The f-number defines the brightness of lens. Smaller number lens has generally brighter image. The f-number is directly proportional to the focal length and inversely proportional to the lens diameter.
※ F.No=focal length/diameter of lens aperture

MPEG-4 AVC/H.264

MPEG-4 AVC/H.264 defines the latest video coding format standardized by the ISO-IEC and the ITU-T in 2003. Compared with the conventional MPEG-2 format, MPEG-4 AVC/H.264 has more than twice the efficiency. Your product employs MPEG-4 AVC/H.264 to encode high definition videos.

Product shake (Blur)

If the product is moved while the shutter is open, the entire image may appear blurred. This occurs more often when the shutter speed is slow. Prevent product shake by raising the sensitivity, using a faster shutter speed. Alternately, use a tripod, the DIS or OIS function to stabilise the product.

Quality

An expression of the rate of compression used in a digital image. Higher quality images have a lower rate of compression, which usually results in a larger file size.

Resolution

The number of pixels present in a digital image. High resolution images contain more pixels and typically show more detail than low resolution images.

Shutter speed

Shutter speed refers to the amount of time it takes to open and close the shutter, and it is an important factor in the brightness of a photo, as it controls the amount of light which pass through the aperture before it reaches the image sensor. A fast shutter speed allows less time to let light in and the photo becomes darker and more easily freezes subjects in motion.

Specifications

Model name	HMX-W200RP/HMX-W200TP

System	Video signal	PAL
	Picture compression format	H.264 (MPEG-4.AVC)
	Audio compression format	AAC (Advanced Audio Coding)
	Image device	1/3.2" CMOS
	Effective pixels	4 mega pixels
	Total pixels	5 mega pixels
	Lens	F2.2, X3 Digital zoom
	Focal length	4.3 mm
LCD screen	Size/dot number	2.3" LCD / 230k
	LCD screen method	TFT LCD
Connectors	HDMI output	C type connector (mini HDMI)
	USB output	Built-in USB
General	Dust-proof/Water-proof specification	Max. 3 m underwater (IEC IP58)
	Power source	3.7V (Using Lithium Ion battery)
	Power source type	Lithium Ion battery
	Power consumption (Recording)	2.1 W (LCD on)
	Operating temperature	0 ℃ ~ 40 ℃ (32 ℉~104 ℉)
	Operating humidity	Below 60%
	Storage temperature	-20 ℃ ~ 60 ℃ (-4 ℉ ~ 140 ℉)
	Storage media	Memory card (micro SD/micro SDHC) (Not supplied)
	External dimensions (WxHxD)	Approx. 60 mm (2.4 inches) x 113 mm (4.45 inches) x 19.7 mm (0.78 inches)
	Weight	Approx. 140 g (0.31 lb, 4.94 oz) (battery included, internal type)
	Internal MIC	Mono microphone

※ The technical specifications and design may be changed without notice.

Contact SAMSUNG WORLD WIDE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care centre.

Region	Country	Contact Centre ☎	Web Site
North America	CANADA	1-800-SAMSUNG(726-7864)	www.samsung.com
	MEXICO	01-800-SAMSUNG(726-7864)	www.samsung.com
	U.S.A	1-800-SAMSUNG(726-7864)	www.samsung.com
Latin America	ARGENTINE	0800-333-3733	www.samsung.com
	BRAZIL	0800-124-421, 4004-0000	www.samsung.com
	CHILE	800-SAMSUNG(726-7864)	www.samsung.com
	COLOMBIA	01-8000112112	www.samsung.com
	COSTA RICA	0-800-507-7267	www.samsung.com
	DOMINICA	1-800-751-2676	www.samsung.com
	ECUADOR	1-800-10-7267	www.samsung.com
	EL SALVADOR	800-6225	www.samsung.com
	GUATEMALA	1-800-299-0013	www.samsung.com
	HONDURAS	800-27919267	www.samsung.com
	JAMAICA	1-800-234-7267	www.samsung.com
	NICARAGUA	00-1800-5077267	www.samsung.com
	PANAMA	800-7267	www.samsung.com
	PERU	0-800-777-08	www.samsung.com
	PUERTO RICO	1-800-682-3180	www.samsung.com
	TRINIDAD & TOBAGO	1-800-SAMSUNG(726-7864)	www.samsung.com
	VENEZUELA	0-800-100-5303	www.samsung.com
Europe	ALBANIA	42 27 5755	
	AUSTRIA	0810 - SAMSUNG (7267864, € 0.07/min)	www.samsung.com
	BELGIUM	02-201-24-18	www.samsung.com/be (Dutch) www.samsung.com/be_fr (French)
	BOSNIA	05 133 1999	
	BULGARIA	07001 33 11	www.samsung.com
	CROATIA	062 SAMSUNG (062 726 7864)	www.samsung.com
	CZECH	800 - SAMSUNG(800-726786)	www.samsung.com
	DENMARK	70 70 19 70	www.samsung.com
	FINLAND	030 - 6227 515	www.samsung.com
	FRANCE	01 48 63 00 00	www.samsung.com
	GERMANY	01805 - SAMSUNG(726-7864 € 0,14/Min)	www.samsung.com
	GREECE	80111-SAMSUNG (80111 7267864) from land line, local charge / 210 6897691 from mobile	www.samsung.com
	HUNGARY	06-80-SAMSUNG(726-7864)	www.samsung.com
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	LUXEMBURG	261 03 710	www.samsung.com
	MACEDONIA	023 207 777	
	MONTENEGRO	020 405 888	
	NETHERLANDS	0900-SAMSUNG (0900-7267864) (€ 0,10/Min)	www.samsung.com
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	POLAND	0 801 1SAMSUNG(172678), 022-607-93-33	www.samsung.com
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	SPAIN	902-1-SAMSUNG (902 172 678)	www.samsung.com
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	Switzerland	0848 - SAMSUNG(7267864, CHF 0.08/min)	www.samsung.com/ch www.samsung.com/ch_fr/ (French)
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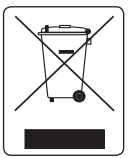
CIS	RUSSIA	8-800-555-55-55	www.samsung.com
	GEORGIA	8-800-555-555	
	ARMENIA	0-800-05-555	
	AZERBAIJAN	088-55-55-555	
	KAZAKHSTAN	8-10-800-500-55-500(GSM: 7799)	www.samsung.com
	UZBEKISTAN	8-10-800-500-55-500	www.samsung.com
	KYRGYZSTAN	00-800-500-55-500	www.samsung.com
	TADJIKISTAN	8-10-800-500-55-500	www.samsung.com
	UKRAINE	0-800-502-000	www.samsung.ua www.samsung.com/ua_ru
	BELARUS	810-800-500-55-500	
	MOLDOVA	00-800-500-55-500	
Asia Pacific	AUSTRALIA	1300 362 603	www.samsung.com
	NEW ZEALAND	0800 SAMSUNG (0800 726 786)	www.samsung.com
	CHINA	400-810-5858, 010-6475 1880	www.samsung.com
	HONG KONG	(852) 3698-4698	www.samsung.com/hk www.samsung.com/hk_en/
	INDIA	3030 8282, 1800 3000 8282	www.samsung.com
	INDONESIA	0800-112-8888, 021-5699-7777	www.samsung.com
	JAPAN	0120-327-527	www.samsung.com
	MALAYSIA	1800-88-9999	www.samsung.com
	PHILIPPINES	1-800-10-SAMSUNG(726-7864), 1-800-3-SAMSUNG(726-7864), 1-800-8-SAMSUNG(726-7864), 02-5805777	www.samsung.com
	SINGAPORE	1800-SAMSUNG(726-7864)	www.samsung.com
	THAILAND	1800-29-3232, 02-689-3232	www.samsung.com
	TAIWAN	0800-329-999	www.samsung.com
	VIETNAM	1 800 588 889	www.samsung.com
Middle East	IRAN	021-8255	www.samsung.com www.samservice.com
	OMAN	800-SAMSUNG(726-7864)	www.samsung.com
	KUWAIT	183-2255	www.samsung.com
	BAHRAIN	8000-4726	www.samsung.com
	Egypt	08000-726786	www.samsung.com
	JORDAN	800-22273	www.samsung.com
	Morocco	080 100 2255	www.samsung.com
	Saudi Arabia	9200-21230	www.samsung.com
	Turkey	444 77 11	www.samsung.com
	U.A.E	800-SAMSUNG (726-7864)	www.samsung.com
Africa	NIGERIA	0800 - SAMSUNG (726-7864)	www.samsung.com
	SOUTH AFRICA	0860-SAMSUNG(726-7864)	www.samsung.com

Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system.



Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

RoHS compliant

Our product complies with “The Restriction Of the use of certain Hazardous Substances in electrical and electronic equipment”, and we do not use the 6 hazardous materials- Cadmium(Cd), Lead (Pb), Mercury (Hg), Hexavalent Chromium (Cr +6), Poly Brominated Biphenyls (PBBs), Poly Brominated Diphenyl Ethers(PBDEs)- in our products.